Social Psychology

Factors Associated with the Use of Sexually Explicit Internet Materials among Adolescents

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Abstract: The international literature indicates that the use of pornography in adolescence may be associated with different risks to sexual health. This study aimed to investigate the factors associated with Sexually Explicit Internet Materials (SEIM) use among Brazilian adolescents. 516 adolescents participated in the study. The instruments were: Questionnaire of Sociodemographic Data, Sexual Behaviors, Sexual Satisfaction, Perceived Utility of SEIM, Sexual Performance Orientation and Conceptions of Women as Sexual Objects; and Gender-Equitable Men Scale. Data were collected online and descriptive, comparison between groups and correlation analyses were conducted. Higher levels of online pornography consumption were correlated with being a boy, not having received sex education at home or in the community, having already had sexual intercourse, greater sexual dissatisfaction, perceived utility of SEIM, sexual performance orientation and presenting conceptions of women as sexual objects. The results provide guidelines for developing psychoeducational strategies about pornography use in adolescence.

Keywords: adolescents, pornography, gender, sexuality, psychosexual behavior

Fatores Associados ao Uso de Materiais Sexualmente Explícitos da Internet entre Adolescentes

Resumo: A literatura internacional indica que o uso de pornografia na adolescência pode estar associado a diferentes riscos à saúde sexual. Este estudo objetivou investigar os fatores associados ao uso de Materiais Sexualmente Explícitos da Internet (MSEI) entre adolescentes brasileiros. Participaram 516 adolescentes. Os instrumentos foram: Questionário de Dados Sociodemográficos, Comportamentos Sexuais, Satisfação Sexual, Utilidade Percebida de MSEI, Orientação à Performance Sexual e Concepções de Mulheres como Objetos Sexuais; e Escala Gender-Equitable Men. A coleta de dados foi online e foram conduzidas análises descritivas, de comparação entre grupos e correlação. Maiores níveis de consumo de pornografia online estiveram correlacionados com ser menino, não ter recebido educação sexual em casa ou na comunidade, já ter tido relação sexual, maior insatisfação sexual, utilidade percebida de MSEI, orientação à performance sexual e apresentar concepções de mulheres como objetos sexuais. Os resultados fornecem direcionamentos para elaborar estratégias psicoeducativas sobre o uso de pornografia na adolescência.

Palavras-chave: adolescentes, pornografia, gênero, sexualidade, comportamento psicossexual

Factores Asociados con el Uso de Materiales Sexualmente Explícitos de la Internet por parte de los Adolescentes

Resumen: La literatura internacional indica que uso de pornografía en adolescencia puede estar asociado a diferentes riesgos para la salud sexual. Este estudio tuvo como objetivo investigar los factores asociados al uso de Materiales Sexualmente Explícitos de la Internet (MSEI) entre adolescentes brasileños. Participarán 516 adolescentes. Los instrumentos fueron: Cuestionario de Datos Sociodemográficos, Comportamientos Sexuales, Satisfacción Sexual, Utilidad Percibida del MSEI; Orientación al Desempeño Sexual y Conceptos de Mujer como Objeto Sexual; y Escala Equitativa de Género para Hombres. Los datos se recopilaron online y se realizaron análisis descriptivos, comparación entre grupos y correlación. Niveles más altos de consumo de pornografía online se correlacionaron con ser niño, no haber recibido educación sexual en casa o comunidad, haber tenido relaciones sexuales, mayor insatisfacción sexual, utilidad percibida de MSEI, orientación sexual y tener concepciones sobre mujeres como objeto sexual. Los resultados aportan pautas para desarrollar estrategias psicoeducativas sobre uso de pornografía en adolescencia.

Palabras clave: adolescentes, pornografía, género, sexualidad, conducta psicosexual

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Due to the advent of the internet and, later, equipment such as smartphones and tablets, the extent of access to Sexually Explicit Materials (SEM) in society has become unprecedented. Consequently, there has been a significant expansion of pornography consumption among young people in recent years (Koletić, 2017). International studies have sought to find out what are the main factors associated with the use of Sexually Explicit Internet Materials (SEIM). Among the most common antecedents, the scientific literature points out that being a boy is associated with a higher consumption of SEIM in different countries, such as China (Ma, 2019), Taiwan (Tsai et al., 2018), the United States (Sabina et al., 2008) and in most European countries (Smahel et al., 2020).

A recent survey conducted in Croatia with high school male students showed that 79.8% of respondents in the capital and 61.7% in the third largest city in the country used SEIM weekly or daily (Šević et al., 2020). In the United States, a retrospective study with university students showed that 93% of men were exposed to MSE before reaching 18 years of age (Sabina et al., 2008). On the other hand, data pointing to the prevalence of SEIM consumption among young people in Latin America, especially in Brazil, are scarce or non-existent.

As a result of the exacerbated diffusion of SEIM, potential outcomes associated with the use of pornography have become objects of study. The literature review by Pluhar et al. (2019) pointed to uncontrolled pornography use as one of the most prominent subtypes of Problematic Interactive Media Use (PIMU). International research indicates that the use of SEIM in adolescence may be associated with sexual dissatisfaction (Doornwaard et al., 2014), a higher occurrence of casual sex (Koletić, 2017; Peter & Valkenburg, 2016; Vandenbosch & van Oosten, 2018) , sex without using a condom (Koletić et al., 2019) and the increase in rigid beliefs about gender stereotypes and conceptions of women as sexual objects (Koletić, 2017; Peter & Valkenburg, 2016).

In the Australian research carried out by Davis et al. (2018), it was observed that, from the perspective of young people, the behaviors most displayed in pornographic content are associated with the pleasure of men (83%) and the representation of men as a dominant figure (70%). In this sense, the manifestation of gender inequality seems to be intertwined in scenes performed in pornographic videos (Davis et al., 2018). These are worrying data, especially considering that there is evidence that adolescents use these videos as instructional tools to learn how to relate sexually (Vandenbosch et al., 2018).

There are indications that the greater the frequency of use of SEIM, the greater the perception of adolescents that this is a useful material for learning about sex (Vandenbosch & van Oosten, 2018). In this direction, the perceived usefulness of SEIM, that is, believing that pornographic materials on the internet provide relevant information about sex, can contribute to a greater orientation towards sexual performance (Vandenbosch et al., 2018).

Experimental research conducted with adolescents involving the use of SEIM is considered unethical. Furthermore, finding a control group that has never been exposed to pornographic materials on the internet seems less and less possible (Koletić, 2017). Thus, survey studies are essential to explore the risk factors and possible health outcomes that may be directly or indirectly associated with the use of SEIM. Furthermore, they allow an analysis of the prevalence of SEIM consumption among young people considering sociodemographic variables. Finally, it is important to consider that survey research has the potential to provide evidence about relevant aspects that should be considered in interventions in the field of sex education for schools and communities.

Therefore, this study aimed to investigate the factors associated with the use of Sexually Explicit Internet Materials (SSM) among Brazilian adolescents. Specifically, the prevalence of SEIM consumption among adolescents will be analyzed and whether SEIM use is associated with adolescent sexual behaviors (examples: condom use, having already had sexual intercourse and number of sexual partners in the last 12 months), having received sex education, sexual satisfaction, perceived usefulness of SEIM, sexual performance orientation, presenting conceptions of women as sexual objects and acceptance of traditional gender norms.

Methods

Participants

Inclusion criteria to participate in the research involved being between 12 and 17 years old, residing in Brazil and obtaining consent from parents or guardians to participate in the research. The sample of this study was non-probabilistic and for convenience. Study participants were 516 adolescents who completed the instruments completely. Participants were mostly cis women ($n = 382$) and cis men ($n = 71$), had a mean age of 15.4 years ($SD = 1.3$) and were in high school ($n = 385$). The complete characterization of the sociodemographic data of the sample is detailed in Table 1.

Table 1
Characterization of study participants

	Participants ($n = 516$)	
Variables	N	%
Age		
12-13	44	8.5
14-15	211	40.9
16-17	261	50.6
Race/ethnicity		
White	232	45.0
Brown	211	40.9
Black	56	10.9

Table 1
Continuation

	Participants ($n = 516$)	
Variables	*N*	%
Other	17	3.3
Sex assigned at birth		
Men	76	14.7
Women	439	85.1
Intersex	1	0.2
Gender identity		
Cis man	71	13.8
Trans man	7	1.4
Cis woman	382	74.0
Trans woman	1	0.2
Transvestite	1	0.2
Non-binary	35	6.8
Other	19	3.7
School grade		
7th year of elementary school	11	2.1
8th grade of elementary school	40	7.8
9th grade of elementary school	80	15.5
1st year of high school	126	24.4
2nd year of high school	126	24.4
3rd year of high school	133	25.8
Sexual orientation		
Heterosexual	180	34.9
Bisexual	192	37.2
Homosexual	46	8.9
Don't know	48	9.3
Other	50	9.7

Instruments

Pornography consumption: Questionnaire that sought to assess the frequency of pornography consumption (dependent variable of the study) in different formats based on four items: (1) I visit pornographic sites (Xvideos, Pornhub, Redtube, etc.); (2) I receive pornographic videos or images on my cell phone; (3) I look for pornographic videos or images on social networks; and (4) I read erotic stories/ stories. All items were answered on a five-point Likert scale, ranging from never (1) to very often (5).

Sex education: Questionnaire with two dichotomous yes or no questions: (a) Did you receive sex education at your school?; (b) In your home, church or community, have you received sex education? For the two questions, the following examples of forms of sex education are presented: conversations, lectures or activities related to sexuality, gender and prevention of Sexually Transmitted Infections (STIs) and pregnancy.

Sexual behavior of adolescents: Questionnaire that began with the following dichotomous yes or no question: Have you ever had sexual intercourse?. If the participant marked yes, other questions about sexual behavior were enabled, such as the following: (a) How often would you say you use condoms? and (b) How many sexual partners have you had in the last 12 months?.

Sexual satisfaction: Assessed using a single item: Overall, how satisfied are you with your sex life?. The item was answered on a five-point Likert scale, with response options ranging from completely satisfied (1) to completely dissatisfied (5).

Perceived usefulness of SEIM and Sexual performance orientation: These variables were assessed using 7 items adapted from the questionnaire by Vandenbosch et al. (2018). An example of an item to assess the perceived usefulness of the SEIM was the following: Pornographic materials on the internet can provide relevant information about sex. An example of an item for guidance on sexual performance was the following: Always make your partner have an orgasm during sex. Responses to the items were distributed on a five-point Likert scale, ranging from strongly agree or very important (1) to strongly disagree or not important (5).

Objectification of women: Assessed based on four items adapted from the questionnaire by Vandenbosch and van Oosten (2017). Among the items is the phrase "there is nothing wrong with men being primarily interested in a woman's body". Possible answers were distributed on a five-point Likert scale, ranging from strongly agree or very important (1) to strongly disagree or not important (5).

Gender-Equitable Men Scale (GEM): This is an instrument with 24 items distributed on a three-point Likert scale, with the response options disagree (1), partially agree (2) and agree (3). The scale presents a two-factor solution. The Inequitable Norms Subscale, which has 17 items, and the Equal Norms Subscale, which has 7 items. The scale was developed for the Brazilian context by Pulerwitz and Barker (2008) and has adequate internal consistency, with Cronbach's alpha of 0.81.

Procedures

Data collection. Participants were recruited after the study was published on the researchers' social networks. On Instagram, the research boosting mechanism was used for the target audience (people between 12 and 17 years old who live in Brazil) and on Facebook, requests were made to share the research in socialization groups with a young audience. The instruments were self-administered, and data collection was online using the Qualtrics tool between February 5th and 9th, 2022.

Data analysis. The data obtained were analyzed using the Statistical Package for the Social Sciences (SPSS) 22.0 software. First, descriptive analyzes were performed on all study variables and comparison analyzes between two groups, with adolescent boys and adolescent girls. Sex assigned at

birth, gender identity (cis-man, cis-woman and others) and sexual orientation (heterosexual and non-heterosexual) were used as a proxy for comparison.

The normality of numerical data was tested considering the parameter that points out that there is no significant difference between the results of parametric and non-parametric tests for the comparison of two means when the kurtosis is less than 1.96. All items were distributed within the appropriate parameter for parametric analyses. Student's t test for independent samples was used to compare the means of pornographic website consumption behaviors in relation to sexual orientation.

Finally, Spearman's correlation analysis was used to verify associations between pornography consumption and the following variables: condom use, having already had sexual intercourse, having multiple sexual partners in the last 12 months, having received sex education, sexual satisfaction, perceived usefulness of SEIM, sexual performance orientation, present conceptions of women as sexual objects and the GEM scale.

Ethical Considerations

This research was approved by the Research Ethics Committee of the Pontifícia Universidade Católica do Rio Grande do Sul, under registration CAEE Nº. 55057222.0.0000.5336. Bearing in mind that the study involved the participation of adolescents, the participants' informed consent was required through the Informed Consent Form (ICF) and also the consent of the guardian Informed Consent Form (ICF). The regulatory guidelines and standards for research involving human beings established by the National Health Council (CNS) in Resolution 466/2012 were respected.

Results

Results indicate that 43.6% ($n = 225$) of adolescents received sex education at school and 39.7% ($n = 205$) received sex education at home, church or community. It was observed that 41.3% ($n = 213$) stated that they had already had sexual intercourse, and the mean age for the first sexual intercourse was 14.3 years ($SD = 1.6$). Most adolescents who had already had sexual intercourse reported that in the last 12 months they had had sex with a sexual partner (24.4%; $n = 126$), followed by two partners (5.6%; $n = 29$) and three (3.3%; $n = 17$) partners in this same parameter ($M = 1.8$; $SD = 1.7$).

Descriptive analyzes showed that 64.3% of the participants had already read erotic stories/stories and 61.6% had already visited pornographic websites. Also, 42.2% have already received pornographic videos or images on their cell phones and 44.2% have already searched for pornographic videos or images on social networks. However, the numbers vary greatly between girls and boys. Among people designated female at birth ($n = 439$), 42.1% never searched

for pornographic sites and only 8.1% searched often or very often. In relation to people designated boys at birth ($n = 76$), only 17.1% never looked for pornographic sites and 48.6% looked often or very often.

Regarding erotic stories/stories, 33.9% of girls have never read and 16% read often or very often, while 46% of boys have never read and 10.5% read often or very often. In this same parameter, it was found that more girls (59.9%) reported never having received pornographic videos or images on their cell phones compared to boys (46%), while more boys (11.7%) reported receiving them frequently or very frequently in compared to girls (3.1%).

Finally, 61.2% of the girls reported never having looked for pornographic videos or images on social networks and only 3.8% looked often or very often. As for boys, 25% reported never having searched and 28.8% searched often or very often. Complete data on mean response and standard deviation for pornography consumption (dependent variable) and other independent/explanatory variables are specified in Table 2.

Using gender identity as a proxy for comparison, it was observed that people with non-cis identities (trans men, trans women, non-binary, transvestites and others) who frequently or very frequently visit pornographic websites (20.5%) search for videos or pornographic images on social networks (7.8%) and receive pornographic videos or images on their cell phones (4.6%) use these types of SEIM in a greater proportion than cis-women in these same parameters (6.9%; 3 .3%; 2.8%). However, cis-men are the biggest consumers (47.7%; 29.5%; 12.6%). People with non-cis identities read erotic stories/ stories more often or very often (28.5%) compared to the other groups, followed by cis-women (14.6%) and cis-men (8.4%).

With regard to sexual orientation, in general, non-heterosexual people showed a higher consumption of pornographic materials in all media compared to heterosexual people. t-tests demonstrated that non-heterosexual participants ($M = 2.347$; $SD = 1.174$) had a significantly higher consumption of pornographic sites than heterosexual participants ($M = 1.833$; $SD = 1.038$), with a mean effect size ($t(466) = -4.951$, $p < 0.001$, $d = -0.457$).

Spearman's correlation analyzes demonstrated that a higher frequency of visits to pornographic websites is significantly associated with not receiving sex education at home or in the community ($rho = 0.095$, $p < 0.05$). The correlation with receiving sex education at school was not significant. Also, having already had sexual intercourse is associated with a higher frequency of visits to pornographic sites ($rho = -0.113$, $p < 0.05$) and receiving pornographic videos or images on the cell phone ($rho = -0.216$, $p < 0.001$).

The frequency of condom use was not significantly associated with any type of pornography consumption. On the other hand, a greater number of sexual partners in the last 12 months was positively associated with a higher frequency of receiving pornographic videos or images on cell phones ($rho = 0.212$, $p < 0.01$). Regarding sexual satisfaction, it was shown that the greater the sexual dissatisfaction, the greater the consumption of pornography in general, as can be seen in Table 3

Table 2
Mean, standard deviation and possible answers for the variables

Dependent variable	Mean	Standard deviation	Answers
I visit pornographic sites (Xvideos, Pornhub, Redtube, etc.)	2.1453	1.14917	1) Never – 5) Very often
I receive pornographic videos or images on my phone	1.6802	95352	1) Never – 5) Very often
I look for pornographic videos or images in social media	1.7403	1.00600	1) Never – 5) Very often
I read erotic short stories/stories	2.2461	1.18874	1) Never – 5) Very often

Independent or explanatory variables	Mean	Standard deviation	Answers
How old are you?	15.4264	1.32211	Descriptive
At your school, did you receive sex education?	1.5640	.49637	1) Yes or 2) No
In your home, church or community, you received sex education?	1.6027	.48981	1) Yes or 2) No
Have you ever had sexual intercourse (had sex)?	1.5872	.49281	1) Yes or 2) No
How many sexual partners have you had in the last twelve months?	1.8498	1.72822	Descriptive
How often would you say you use the condom (condom)?	2.5634	1.41820	1) Always – 5) Never
Overall, how satisfied are you with your sex life?	2.3275	1.14030	1) Completely satisfied – 5) Completely dissatisfied
Watching sex on the internet, you can learn things you wouldn't otherwise learn	3.1996	1.17947	1) Totally agree – 5) Strongly Disagree
Watching sex on the internet, you can learn to have sex	3.7267	1.07800	1) Totally agree – 5) Strongly Disagree
Pornographic material on the internet can provide relevant information about sex	3.4516	1.10935	1) Totally agree – 5) Strongly Disagree
Always make your partner or partner have an orgasm (cum) during sex	2.0019	1.06579	1) Totally agree – 5) Strongly Disagree
Be good at oral sex	2.3721	1.19591	1) Totally agree – 5) Strongly Disagree
Show your partners how good you are at sex	2.8798	1.19428	1) Totally agree – 5) Strongly Disagree
Know many sexual positions	3.3236	1.19461	1) Totally agree – 5) Strongly Disagree
Subconsciously, women want be persuaded (convinced) to have sex	3.9244	1.16923	1) Totally agree – 5) Strongly Disagree
Sexually active women are partners more attractive	3.4322	1.14283	1) Totally agree – 5) Strongly Disagree
An attractive woman must wait sexual advances	3.9244	.94925	1) Totally agree – 5) Strongly Disagree
There's nothing wrong with men that are primarily interested in the body of the woman	3.8547	1.00300	1) Totally agree – 5) Strongly Disagree
GEM_TOTAL scale	2.89	.130	1) Disagree, 2) Partially agree and 3) Agree

Using gender identity as a proxy for comparison, it was observed that people with non-cis identities (trans men, trans women, non-binary, transvestites and others) who frequently or very frequently visit pornographic websites (20.5%) search for videos or pornographic images on social networks (7.8%) and receive pornographic videos or images on their cell phones (4.6%) use these types of SEIM in a greater proportion than cis-women in these same parameters

(6.9%; 3 .3%; 2.8%). However, cis-men are the biggest consumers (47.7%; 29.5%; 12.6%). People with non-cis identities read erotic stories/stories more often or very often (28.5%) compared to the other groups, followed by cis-women (14.6%) and cis-men (8.4%) .

With regard to sexual orientation, in general, non-heterosexual people showed a higher consumption of pornographic materials in all media compared to heterosexual people. t-tests demonstrated that non-heterosexual participants ($M = 2.347$; $SD = 1.174$) had a significantly higher consumption of pornographic sites than heterosexual participants ($M = 1.833$; $SD = 1.038$), with a mean effect size ($t(466) = -4.951$, $p < 0.001$, $d = -0.457$).

Spearman's correlation analyzes demonstrated that a higher frequency of visits to pornographic websites is significantly associated with not receiving sex education at home or in the community ($rho = 0.095$, $p < 0.05$). The correlation with receiving sex education at school was not significant. Also, having already had sexual intercourse is associated with a higher frequency of visits to pornographic sites ($rho = -0.113$, $p < 0.05$) and receiving pornographic videos or images on the cell phone ($rho = -0.216$, $p < 0.001$).

The frequency of condom use was not significantly associated with any type of pornography consumption. On the other hand, a greater number of sexual partners in the last 12 months was positively associated with a higher frequency of receiving pornographic videos or images on cell phones ($rho = 0.212$, $p < 0.01$). Regarding sexual satisfaction, it was shown that the greater the sexual dissatisfaction, the greater the consumption of pornography in general, as can be seen in Table 3.

Table 3

Spearman correlations

Variable	I visit pornographic websites (Xvideos, Pornhub, Redtube, etc.)	I receive pornographic videos or images on my cell phone	I look for pornographic videos or images on social networks	I read erotic short stories/ stories
Overall, how satisfied are you with your sex life?	0.254***	0.104*	0.226***	0.144**
Perceived usefulness of SEIM: Watching sex on the internet, you can learn things I wouldn't learn otherwise.	-0.236***	-0.142**	-0.176***	-0.061
Perceived usefulness of SEIM: Watching sex on the internet, you can learn to have sex.	-0.161***	-0.105*	-0.144**	0.017
Perceived usefulness of SEIM: Pornographic material on the internet can provide relevant information about sex.	-0.193***	-0,111*	-0.144**	-0.096*
Orientation to sexual performance: Always make your partner have a orgasm (cum) during sex.	-0.173***	-0.050	-0.119**	-0.104*
Orientation to sexual performance: Be good at oral sex.	-0.215***	-0.065	-0.177***	-0.059
Orientation to sexual performance: Show it to your partners how good you are at sex.	-0.140**	-0.160***	-0.152***	-0.047
Orientation to sexual performance: Know many sexual positions.	-0.069	-0.151***	-0.108*	-0.042
Conceptions of women as sexual objects: Unconsciously, women want to be persuaded (convinced) to have sex.	-0.066	-0.083	-0.093*	0.024
Conceptions of women as sexual objects: Sexually active women are partners more attractive.	-0.044	-0.149***	-0.047	-0.034
Conceptions of women as sexual objects: An attractive woman should expect sexual.advances.	-0.081	-0.119**	-0.063	0.024
Conceptions of women as sexual objects: There's nothing wrong with men being primarily interested in a woman's body.	-0.105*	-0.073	-0.128**	-0.045

Note. * $p < 0.05$; $p < 0.01$; $p < 0.001$.

Regarding the perceived usefulness of SEIM and sexual performance orientation, both variables showed significant correlations with overall pornography consumption. However, in the case of consumption of pornography based on reading erotic stories/stories, the association was weaker. Presenting conceptions of women as sexual objects showed a significant, but weak, correlation with pornography consumption in general, as can be seen in Table 3.

It was an unexpected result that pornography consumption was associated with acceptance of more equitable gender norms, as assessed using the GEM Scale. Finally, the correlation between age and pornography consumption was not significant. These findings are detailed in Table 4.

Table 4

Spearman correlation between Gender-Equitable Men Scale (GEM), age and consumption of pornography

	Total GEM	Age	I visit pornographic websites (Xvideos, Pornhub, Redtube, etc.)	I receive pornographic videos or images on my cell phone	I look for pornographic videos or images on social networks	I read erotic short stories/stories
GEM_Total	1.000	.095*	.115**	-.044	.097*	.091*
Age	.095*	1.000	-.028	.016	-.010	-.076

Note. $*p < .05$, $**p < .01$.

Discussion

The present study sought to investigate the factors associated with the use of SEIM among Brazilian adolescents. It was found that being a boy, not receiving sex education at home or in the community, having already had sexual intercourse, greater sexual dissatisfaction, perceived usefulness of SEIM, sexual performance orientation and presenting conceptions of women as sexual objects were factors that were significantly correlated with higher levels of online pornography consumption. Specifically, the correlations were stronger with certain types of consumption, such as visiting pornographic websites and receiving pornographic images or videos on social networks.

It was found that most young people aged between 12 and 17 have used pornographic materials at least once. A small proportion of girls make regular use of SEIM. In these cases, the girls reported using materials from erotic tales/stories more frequently. A possible explanation for why this type of pornographic material is preferred by adolescent girls involves the fact that sex videos found on the internet generally prioritize content predominantly associated with the pleasure of a dominant man (Davis et al., 2018). In this direction, research by van Oosten (2016) highlights that girls with lower levels of acceptance of female objectification and male dominance respond more negatively to an erotic narrative aimed at men.

In contrast, approximately half of boys regularly visit pornographic websites. This result is similar to the findings of Šević et al. (2020), which showed that 61.7% of boys in Rijeka, Croatia, used SEIM weekly. The present study also demonstrated that boys are the ones who most receive pornographic images or videos on their cell phones, as well as more often seeking this type of material on social networks, although in smaller proportions when compared to visits to pornographic sites. Surprisingly, there was no significant correlation between the age of the teens participating in the survey and changes in levels of pornography consumption. That is, being younger or older did not imply greater or lesser exposure to SEIM. This result differs from the scientific literature that points out that being older or reaching puberty earlier increases pornography consumption (Tsai et al., 2018).

Since the correlation between visiting pornographic websites and not receiving sex education at home or in the community was significant, it is plausible to imagine that adolescents also use SEIM to learn about sex (Vandenbosch et al., 2018), even if this is not the case. main purpose. This phenomenon can occur due to the lack of a supportive environment, seeking affirmation of one's own sexuality and knowledge about sexual and gender diversity, denoting the urgency of having a greater openness to dialogue involving these themes. Furthermore, this would explain why not being heterosexual may be another predictor for greater consumption of pornographic sites. It is possible that non-heterosexual people use SEIM more frequently as a way of sexually educating themselves about sexual practices, considering the cisheteronormativity embedded in society. This consideration can also be thought of as a possibility to explain the finding of higher consumption of SEIM by transgender people.

Another pertinent aspect is that the fact that the perceived usefulness of SEIM has been shown to be significantly associated with greater exposure to SEIM, especially

through visits to pornographic websites and searches for pornographic videos or images on social networks, is considered congruent. The longitudinal survey study carried out by Vandenbosch et al. (2018) demonstrated that, as young people begin to enjoy online pornography, they understand that there is an instructional utility in the content of videos or images. Furthermore, higher levels of perceived usefulness of SEIM predict a greater sexual performance orientation, which means that more frequent consumption of online pornography tends to be indirectly associated with a more intensely performance-focused sexual orientation.

However, it should be noted that neither the perceived usefulness of SEIM nor sexual performance orientation were shown to be significantly associated with the consumption of erotic stories/stories. This result is probably due to the fact that pornographic videos usually portray highly sexually experienced people (Vannier et al., 2014), capable of easily having sex anywhere and in any situation (Štulhofer et al., 2010) and proficient in performance of different sexual positions (Gorman et al., 2010). On the other hand, erotic tales and stories tend to be less performative, less surreal and more consistent with the way sexual relations take place in real life.

Regarding sexual satisfaction, the findings are in line with a previous study (Doornwaard et al., 2014), demonstrating that pornography consumption in general has a significant and strong correlation with sexual dissatisfaction. Frequent users of pornography tend to find the performance, disposition and even appearance of their sexual partners insufficient. However, longitudinal surveys would be necessary to verify whether the correlation loses significance over time, as occurred in the study by Milas et al. (2019) with Dutch youth.

Finally, contrary to expectations, acceptance of inequitable gender norms was not associated with greater exposure to SEIM. On the contrary, the more teens consumed pornography online, the more they tended to have greater acceptance of gender-equitable norms. The correlation, however, was weak. Furthermore, it should be noted that the GEM Scale (Pulerwitz & Barker, 2008) includes questions that refer to extreme gender stereotyping and even violence against women directly (example: "There are times when women deserve to be beaten"). This result must also be understood considering the previous scientific literature, since Vangeel et al. (2020), in a longitudinal survey of Belgian adolescents, did not find a significant association between exposure to online pornography and acceptance of gender norms.

Since a significant correlation was observed between exposure to SEIM and having conceptions of women as sexual objects, it is possible that consumption of pornography is a predictor of more rigid beliefs about gender stereotypes, as has already been explained in previous systematic (Peter & Valkenburg, 2016) and non-systematic (Koletić, 2017) literature review studies. However, it is plausible to assume that the effect is more subtle and that the impact does not necessarily lead to greater levels of aggression or violence

against women. In this sense, the results of the present study are in line with previous research carried out by Maes et al. (2019) in Belgium and by Vandenbosch and van Oosten (2017) in the Netherlands.

Regarding the limitations of the present study, it is pertinent to mention the fact that, with the exception of the variable that assessed gender norms, the other research variables were accessed from a questionnaire that was not psychometrically validated. The cross-sectional design of the study is also a considerable limitation, as it does not allow for a more in-depth assessment of the use of pornography in adolescence in different periods of time. It is recommended that future studies develop strategies to be able to longitudinally evaluate the same variables investigated in this study, in order to understand whether the correlations found in this research lose strength over time.

Pornography psychoeducation has the potential to decrease several undesirable effects of SEIM use, such as having unrealistic sexual expectations (Austin et al., 2015), having the perception that watching pornography is a good way to learn about sexual relationships (Rothman et al. al., 2018) and present conceptions of women as sexual objects (Vandenbosch & van Oosten, 2017). In this sense, it is possible to conclude that the present study presents a great contribution to the scientific literature, since it provides unpublished results that allow to know the use of SEIM among adolescents in the Brazilian scenario. This information is essential to properly develop interventions in the field of sex education that are scientifically based and, therefore, have greater potential for effectiveness in reducing the negative consequences of SEIM use by adolescents.

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