

Research article / *Artículo de investigación*

Victimization and perpetration of online sexual violence among Spanish adolescents and its relationship with the consumption of pornography / *Victimización y perpetración de violencia sexual electrónica en adolescentes españoles y su relación con el consumo de pornografía*

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Abstract

The aim of this article is to analyze the relationship between pornography consumption and the prevalence of victimization and the perpetration of online sexual violence in a representative sample of 4,024 adolescents aged 14 to 17 ($M = 15.42$; $SD = 1.03$) in full time education in Spain. Results showed that 12.1% of participants reported experiencing some form of online sexual victimization, and 1.6% reported having perpetrated such violent behaviours in the past year. Among the adolescents surveyed, 51.6% reported consuming pornography in the last year, with 12.5% of the sample consuming it weekly and 10.6% daily. Female participants and those reporting pornography consumption indicated higher rates of victimization. Additionally, adolescents who consumed pornography also reported engaging in more electronic sexual violence behaviours. The findings underscore the need to implement prevention programmes from an intersectional perspective to support evidence-based risk reduction.

Keywords

sexual violence, online violence, adolescence, pornography, Spain

Resumen

El objetivo del presente artículo es analizar la relación entre el consumo de pornografía en una muestra representativa de 4.024 jóvenes, de entre 14 y 17 años ($M = 15,42$; $DT = 1,03$) escolarizados en España y la prevalencia de victimización y perpetración de violencia sexual electrónica en los últimos 12 meses. Los resultados mostraron que el 12,1% de participantes reportó algún tipo de victimización sexual electrónica y el 1,6% haber perpetrado alguna de estas conductas violentas en el último año. El 51,6% de los adolescentes informó haber consumido pornografía en el último año, destacando que el 12,5% de la muestra lo hacía cada semana y el 10,6% a diario. Las participantes de sexo femenino y el grupo de adolescentes que informaba consumir pornografía reportaron victimización con mayor frecuencia. A su vez, los adolescentes que consumían pornografía también indicaron haber perpetrado más conductas de violencia sexual electrónica. Los resultados instan a impulsar la implementación de programas de prevención desde una perspectiva interseccional que puedan incidir en una reducción del riesgo basada en la evidencia.

Palabras clave

violencia sexual, violencia electrónica, adolescencia, pornografía, España

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Victimization and perpetration of online sexual violence among Spanish adolescents and its relationship with the consumption of pornography

Social media, electronic communications and entertainment play a key role in the development of children and adolescents. This also means that the dynamics of victimization have transcended physical limits and have taken hold in the digital world. This phenomenon is coming to be known as electronic, online or cyber-victimization (Patton et al., 2014). Specifically, Internet access has changed forms of sexual violence by providing new opportunities for abusers to meet their sexual needs, manipulate and exploit the most vulnerable children, and unite and become stronger to validate sexual violence against children and adolescents (Kloess et al., 2017).

Online sexual violence refers to a variety of behaviours in which digital technologies are used to facilitate sexual behaviours that can be criminal and cause harm to the victim (Henry & Powell, 2018). Among the forms of sexual violence to which children and adolescents can be exposed when using the Internet in their daily lives are sexual solicitation, sextortion and online grooming (Greene-Colozzi et al., 2020). Online sexual solicitation refers to requests made of a child or adolescent to engage in sexual activities or sexual conversations, or to provide personal sexual information without the child wishing to do so. These requests can be considered aggressive when the person has also attempted to contact the child offline, by phone, by email or in person (Mitchell et al., 2001). Sextortion refers to the practice of demanding money, new sexual material or even sexual acts through blackmail or threats to publish audiovisual content or sexual personal information about the victim (Patchin & Hinduja, 2018). Online grooming, meanwhile, refers to cases in which an adult electronically contacts a child or adolescent, gradually gaining their trust, through a manipulation process known as grooming, for the purpose of engaging them in sexual activity (Craven et al., 2006). This can range from talking about sex and obtaining sexual material, to having a sexual encounter in a physical setting.

Prevalence of Online Sexual Victimization and Perpetration

Although the possibilities offered by the Internet and information and communication technologies are vast, studies indicate that online victimization is becoming a widespread and growing problem worldwide, especially among adolescents (Lozano-Blasco et al., 2023).

Most young people who use the Internet are not involved in sexual solicitation or online grooming, either as perpetrators or as victims, but the occurrence of such situations is high. In their rigorous review of studies about online sexual victimization, Madigan et al. (2018) found that approximately 1 in 5 adolescents reports having been exposed to unsolicited sexual material, while 1 in 9 have received sexual solicitation requests.

Looking specifically at studies carried out in Europe, in Germany, one study of 518 students aged 11 to 15 found that 21.4% had been the victim of online grooming in the last year by someone at least 7 years older, with girls presenting twice the risk of being victims (Wachs et al., 2012). Meanwhile, in Denmark, Helweg-Larsen et al. (2012) conducted a study with a sample of 3,707 adolescents aged 14 to 17 and found incidents of sexual solicitation affecting 5.4% of boys and 16.2% of girls. In Sweden, a study of more than 1,000 adolescents aged 14 to 16 found that 35.5% of the girls and 19.9% of the boys reported some form of sexual solicitation in the last six months, such as talking about sex, engaging in sexual conduct or meeting up outside the online environment (Zetterström Dahlqvist & Gillander Gådin, 2018). In Italy, in a study of 310 adolescents aged 12 to 17, a total of 45.5% of the boys and 27.8% of the girls reported having endured at least one form of electronic sexual victimization in the last year. The most frequent form was involuntary exposure to material with sexual content, such as receiving images of someone else's private parts, indicated by 38.4% of boys and 21.0% of girls. Next, the pressure to talk about sex was reported by 24.2% of boys and 13.9% of girls. Online grooming by an adult affected 14.6% of boys and 13.2% of girls, while sextortion, such as threats to engage in sexual behaviour on camera, affected 17.6% of boys and 6.3% of girls (Longobardi et al., 2021). In Spain, following a survey of 2,000 young people between the ages of 16 and 22, a total of 75.7% of the sample (82.8% of girls and 69% of boys) reported having endured at least one experience of digital sexual violence during their lifetime. 43.2% of the

adolescents and young people surveyed received unsolicited sexual photos, 41.8% received repeated messages, seeking to meet up or engage in a relationship, 40.2% unsolicited sexual comments, 33% indicated that an adult had contacted them for sexual purposes, and 24.2% were pressured to send information, photos or intimate or sexual videos, among others (Fundación Mutua Madrileña, 2024).

In turn, access to the Internet has also made it easier for some young people to commit online sexual violence, although there are fewer studies investigating this matter. Patchin and Hinduja (2018) found that 5% of a national sample of 5,569 American students aged 12 to 17 said they had been on the receiving end of sextortion at some point in their lives, while 3% reported threatening another minor who had shared a sexually explicit image with them. Regarding sex, adolescent males were significantly more likely to have experienced sextortion both as victims and perpetrators. Specifically, about half of the students surveyed who said they had been sextorted also admitted to threatening to distribute explicit images of others that were shared confidentially (2.2% out of 5%). Similarly, more than two-thirds of those who admitted threatening others in this way said they had been victims themselves (2.2% out of a total of 3%). Regarding unwanted sexual requests, approximately 1% of the sample of 1,588 young Americans between the ages of 10 and 15 evaluated by Ybarra et al. (2007) reported behaviours consistent with both the perpetration and victimization of this form of sexual violence.

Risk Variables for Online Sexual Victimization and Perpetration

In general, girls are disproportionately represented among victims of online sexual violence, obtaining higher prevalences in virtually all its forms, although in sextortion no significant differences were found according to sex (Montiel et al., 2016). In the study conducted by Gámez et al. (2023) on a sample of Spanish adolescents, girls reported a higher prevalence of sexual victimization, while boys reported higher levels of electronic sexual perpetration, concluding that online sexual violence is a phenomenon with a marked gender influence. In turn, the overlap between victim and perpetrator occurred only among males.

Other variables such as belonging to a sexual minority are also associated with a higher risk of online sexual victimization since many young people turn to the internet to explore their sexual behaviour and identity, which places them in a position of vulnerability to possible perpetrators (Gámez-Guadix & Incera, 2021). One recent study shows that sexual minorities are more vulnerable to victimization through sextortion but also to the perpetration of this form of sexual violence (Ray & Henry, 2024). The few studies available regarding the perpetration of sexual violence among sexual minorities suggest the need for prevention programmes aimed at people of all sexes and for research efforts to counter gender and heteronormative biases (Trottier et al., 2021).

Similarly, there are few studies focusing on online sexual violence that analyse possible differences in victimization and perpetration according to ethnic group. The general exclusion of this variable in studies prevents an analysis that respects the principles of equity and diversity in this area of research (Anderson et al., 2022). One of the few studies that has included this variable was conducted by Tynes and Mitchell (2014), who found no differences based on belonging to an ethnic minority in sexual solicitation or cybersexual harassment, with gender differences enduring and a significant majority of female victims, regardless of their ethnicity.

Relationship between pornography consumption and sexual victimization and perpetration

Internet-enabled devices have indiscriminately allowed people of all ages to find, consume, create and distribute sexually explicit content, and a growing body of data reveals that these phenomena are becoming increasingly common among teens around the world (Owens et al., 2012).

There is significant controversy in the possible relationship between pornography consumption and violent sexual conduct, with some reviews that do not support this association (Ferguson & Hartley, 2022) while others argue that this link is established (Wright et al., 2016), but its adverse effect on children and adolescents seems to be confirmed. Pornography refers to

material that is deemed to be sexual, given the context, which is primarily intended to excite the consumer sexually and is produced and distributed with the consent of all persons involved (Ashton et al., 2019). Young people are no longer exposed to sexual material through traditional media such as magazines or videos, but have access to a wide range of websites with practically no restrictions (Wolak et al., 2007). These pages tend to contain mostly mainstream pornography which, in many cases, is highly violent (Fritz et al., 2020).

Involuntary exposure among children and adolescents to sexual material not appropriate for their age can affect their development and understanding of personal relationships, generating significant discomfort (Ballester-Arnal et al., 2023). Regarding intentional pornography use, there are significant differences between the sexes (Hernández et al., 2023) and different age groups (Ševčíková & Daneback, 2014), with older male adolescents presenting a higher prevalence and frequency of this behaviour, as well as an earlier initiation compared to girls (Crabbe et al., 2024). In turn, young people belonging to sexual minorities show an increased use of pornography, usually as a way of seeking information regarding their sexual identity (Böthe et al., 2019). It should be noted that pornography is currently the most important sex educator for most young people, especially males and ethnic minorities (Rothman et al., 2021). The sexual experiences of many boys and girls are influenced by the pornography they have seen, or which has been seen by their partners or peers (Flood, 2009). There is significant evidence that the consumption of pornography among teenagers conditions their sexual attitudes (Peter & Valkenburg, 2016). An association has been found between pornography consumption and certain attitudes (such as traditional gender roles, penetration-centred sexuality), behaviour (high risk sexual behaviours) and sexual violence (victimization and perpetration) (Paulus et al., 2024). Review studies indicate that young people who consume pornography may develop unrealistic sexual values and beliefs (Owens et al., 2012). The sexual distortion of women caused by the viewing of dominant pornographic material among adolescents, and the lack of sexual education to compensate for this distortion, is a serious problem in Spain that can increase gender inequality (Román García et al., 2022).

Purpose of the Study

Based on the literature reviewed, the aim of this study is to analyse for the first time in Spain the relationship between pornography consumption and the prevalence of victimization and perpetration of online sexual violence in a representative sample of secondary school children, aged between 14 and 17. The main hypothesis of the study is that the rates of victimization (Fundación Mutua Madrileña, 2024) and perpetration of online sexual violence (Gámez-Guadix et al., 2023), as well as of pornography consumption (Andrie et al., 2021), will be similar to those obtained in previous research in the European context .

At the same time, and from an intersectional perspective, understanding that the relationship between pornography consumption and sexual violence is influenced by a multiplicity of psychosocial variables, it is hypothesized that differences regarding sex, age, sexual orientation and ethnic group will be found both in the consumption of pornography (Böthe et al., 2019; Rothman et al., 2021; Ševčíková & Daneback, 2014) and in the victimization and perpetration of online sexual behaviour (Gámez-Guadix & Incera, 2021; Gámez-Guadix et al., 2023).

Method

Procedure

A random and representative sampling was performed of the Spanish adolescent population in full-time schooling between the ages of 14 and 17. Stratified cluster sampling was used. The strata were defined by the type of education (Compulsory Secondary Education - ESO; the last two years of non-compulsory education known as *Bachillerato*; Basic Vocational Training - FP; Intermediate Vocational Training - CFGM), whether the school was state-run or private and the self-governing region in which it was located. In order to gather data, we contacted schools by phone or email to present the study and request their participation. In schools that agreed to the study, classes were selected randomly to complete the survey, sending out information to teachers about the procedure they needed to follow and how to manage

possible emotional reactions. 70 schools (28.3% agreement rate) participated, distributed in a representative way among all the Spanish self-governing regions and cities.

Prior to data collection, adolescents watched a video with information about the study, its objectives and data anonymity. The participants signed informed consent and subsequently completed the survey online. At the end of the questionnaire, the teenagers received information about available victim support resources, as recommended by international standards (UNICEF, 2012). The study meets all ethical requirements for human research and obtained authorization from the Bioethics Commission of the University of Barcelona (IRB 00003099).

Sample

A total of 4,319 adolescents participated in the study, although any cases that provided false or incoherent responses ($n = 37$; 0.8%) were excluded, as were those that did not fall within the selected age range ($n = 258$; 6.0%), giving a resulting sample of 4,024 adolescents between 14 and 17 years of age ($M = 15.42$; $SD = 1.03$). The sociodemographic information is presented in Table 1.

- Insert Table 1 -

Instruments

Ad hoc questions were devised to collect information about participants such as sex, age, sexual orientation, ethnic group and place of birth, as well as their family or living environment.

Online victimization experiences were evaluated using items from the Juvenile Online Victimization Questionnaire (JOV-Q; Montiel & Carbonell, 2012). Specifically, the questions were about sexual solicitation (*In the past year, has someone used the Internet, mobile phone or any other electronic means to ask you sexual questions about yourself or tried to talk to you online about sex when you didn't want to?*) and online grooming (*In the past year, has an adult*

manipulated or tricked you over the Internet into sending sexual content or meeting with him/her in person?). These items were answered in a dichotomous way indicating whether or not the subject had experienced these forms of violence.

Based on this victimization questionnaire, some items were adapted to collect information on the perpetration of online sexual violence. Specifically, the participants were asked about sexual solicitation (*In the past year, have you used your mobile phone or other electronic means to send unsolicited sexual photos, ask sexual questions, or try to talk to someone online about sex when they didn't want to?*) and sextortion (*In the past year, have you threatened or extorted someone via the Internet to send you photos or material with sexual content or to meet up with you in person?*). Again, the response was dichotomous indicating whether or not these behaviours have been perpetrated.

The risk behaviour of porn consumption was evaluated using two items based on the study by Averdijk et al. (2020): *In the past year, how often have you watched porn films?* And *In the past year, how often have you visited porn sites on the Internet?* using a 5-point Likert scale ranging from 1 *Never* to 5 *Every day or almost every day*. These items were combined in a single variable to explore porn consumption more generally.

Data analysis

The SPSS 27 statistics software programme was used to perform statistical analyses. Descriptive analyses were carried out to determine the prevalence of online sexual victimization and perpetration, weighting the sample when possible. Bivariate analyses were also developed to explore the differences between sociodemographic variables such as sex, or between the group of victims/non-victims and perpetrators/non-perpetrators, calculating the odds ratio (OR) to quantify the association between the variables. The level of significance established for all statistics is $p < .05$.

Results

Prevalence of Victimization and Perpetration of Online Sexual Violence

12.1% of adolescents reported having experienced some form of online sexual victimization (sexual solicitation and/or grooming) in the last 12 months, with sexual solicitation being the most frequent form, reported by 11.1%. As shown in Table 2, significant differences were found according to sex, with girls reporting online victimization more frequently. No significant differences were found with regard to age or ethnic group. Regarding sexual orientation, the LGB group also reported higher prevalences of online sexual victimization, both for the overall value and for sexual solicitation and grooming.

Regarding perpetration, 1.6% of the participants reported having perpetrated some of these behaviours (sexual solicitation and/or sextortion) in the last 12 months, noting that 1.3% had perpetrated sexual solicitation and 0.7% had tried to extort another person to receive sexual material or meet up in person. No significant differences were found according to sex regarding the perpetration of online sexual violence, nor with respect to sexual orientation. Younger participants and those who identify with non-European ethnicities reported higher perpetration levels of online sexual violence.

- Insert Table 2-

In turn, 0.9% ($n = 38$) of adolescents in the general sample indicated having experienced and perpetrated online sexual violence, sharing both roles. Thus, 7.6% of adolescents who reported having experiences of online sexual victimization in the last year had also perpetrated some of these victimizations during the same period of time (compared to 0.8% of young people who had not been victimized). Within this subgroup, 57.9% were female, mostly heterosexual (84.2%), 14-15 years old (73.7%) and of European ethnicity (76.3%).

Consumption of pornography

As for pornography consumption, 51.6% of the sample had consumed films or visited websites over the past year, as shown in Table 3. Analysing the differences by sex, we found that male participants reported a significantly higher prevalence of pornography consumption than female participants (75.0% versus 30.5%), who presented a lower risk for this behaviour. Older teens, aged 16 to 17, also consumed more pornography than the younger group (58.6% versus 45.9%). No significant differences were found in pornography consumption with respect to sexual orientation or ethnic group. In turn, pornography consumption was more prevalent among adolescents who had endured some form of online sexual victimization (58.4% versus 50.8% in the non-victim group). Similarly, this behaviour was reported to a greater extent by the group of adolescents who perpetrated online sexual violence (80.0% versus 51.3% of non-perpetrators), presenting almost four times the risk of pornography consumption.

- Insert Table 3-

Discussion

There is little information provided to younger adolescents about the dangers found in the online relationship environment, exposing them to very high levels of risk for multiple forms of violence and harassment, including forms of sexual violence (De Santisteban & Gámez-Guadix, 2018).

Regarding the general hypothesis of the present study, the results show that online sexual victimization affects 1 out of 10 Spanish adolescents every year, which is a substantial minority. These figures are lower than found in previous national studies (Fundación Mutua Madrileña, 2024) and international studies (Longobardi et al., 2021), although we should bear in mind that the prevalence of online victimization remains difficult to establish and much of the problem lies in the existence of multiple instruments that evaluate different forms of victimization in different time periods. The absence of a standardized reference instrument makes it difficult to validate and reliably measure methods for gauging online sexual violence and, consequently, the results obtained (Peter & Valkenburg, 2016). For this reason, the use of instruments previously applied in the same country (Montiel & Carbonell, 2012) is a strength of the present study, although only using some of the questions from the original instrument may have influenced the differences found. Despite the comparison difficulties arising from the lack of unanimity in the use of measurement instruments, all the studies carried out in the European context, and specifically in Spain, show the extent of a problem that affects a significant number of adolescents and highlight the social responsibility we have in this regard.

It is essential to implement prevention programmes in the educational environment, focused on providing effective safety strategies that go beyond descriptive information about technologies and the Internet, and incorporate interventions that inform adolescents about healthy sexual and emotional relationships (Mitchell et al., 2011). Affective-sexual education and training in the responsible and safe use of the Internet would provide very powerful instruments against violence in this context, which must be implemented from an early age

(Ballester-Arnal et al., 2023). Other studies carried out in Spain indicate that most adolescents tell their parents little about the situations of harassment and violence they experience on the Internet and that 8 out of 10 parents still lack professional resources on how to support their child in the use of social media and the Internet (Fundación Mutua Madrileña, 2024).

International studies show that there is no space for young people to discuss pornography with trusted adults, leaving them unsupported and potentially leading them to develop harmful attitudes and unrealistic expectations about sex (Peterson et al., 2023). It is therefore necessary to provide resources also to caregivers and other adult figures in the child's environment so that they can detect risks and open up communication channels that allow them to intervene in a preventative way.

Regarding the second hypothesis of the study, related to differences in victimization, perpetration and the consumption of pornography according to sociodemographic variables, the gender perspective must be taken into account when designing and implementing prevention programmes, since girls report experiences of online sexual victimization more frequently (Helweg-Larsen et al., 2012) and, consequently, have a greater need for support and resources. In the present study, we found that 18.3% of the girls surveyed have been victims of online sexual violence, compared to 5.9% of boys. However, this does not imply leaving boys out of these programmes because, although they are exposed to such experiences to a lesser extent, they are not without risk, and their victimization rates are also very high. It should be noted that the prevalence of online sexual violence among male participants was similar to that of girls, and therefore interventions should be cross-cutting, targeting all sexes. In this study, adolescent girls were more likely to be victims and perpetrators simultaneously, contrary to the findings of previous studies (Gámez-Guadix et al., 2023). According to general strain theory (Agnew, 1992), the experience of victimization can be a trigger or aggravate negative emotions, such as frustration or anger, which, in turn, can increase the probability of antisocial behaviours as a way to release these emotions, which could be at the root of this behaviour in girls. When interpreting this result, however, it is important to take into account the small number of young

people who indicated having shared both roles, since most of the girls largely identified themselves as victims only. It is a minority group, but of high social and criminological relevance. More studies are needed on the overlap between victim and perpetrator in the online environment that will allow us to know whether it presents the same characteristics and risk factors as in other contexts (Sparks et al., 2023).

Following the second hypothesis of the study, in relation to sexual orientation, and in line with previous studies (Gámez-Guadix & Incera, 2021), young people belonging to sexual minorities show a higher prevalence of online sexual victimization in all its forms, and this risk variable should also be included in the design of prevention programmes if we wish to take effective action against this problem. However, no differences have been found according to ethnicity or age, as in other studies (Tynes & Mitchell, 2014). The finding of higher levels of perpetration of online sexual violence among younger adolescents and in ethnic minority groups should be taken into account, offering new information to an area of study that does not usually include the analysis of these variables (Anderson et al., 2022). Studies on antisocial behaviour in adolescents show that the age where the highest perpetration figures are concentrated is around 15 years old (Shulman et al., 2013), which is consistent with the findings obtained. However, ethnic differences with regard to perpetration do not follow the line of official statistics, which show that 80.5% of sexual crimes committed by minors in Spain in 2022 were committed by minors of Spanish nationality (INE, 2022), which indicates a different profile for online crimes. This finding must be taken into account and analysed from a criminological and intersectional perspective due to its important social implications (Rojas-Gaona et al., 2016).

Regarding pornography, according to the general hypothesis of the study, more than half of the participants reported having consumed it in the last year, similar to the levels found in other European countries (Andrie et al., 2021), and 1 out of 10 consumed it every day or almost every day.

Again, in line with the second hypothesis of the study, gender differences are important, with adolescent boys making up the vast majority. However, the use of pornography by

adolescent girls, which is common in more than 10% girls, should not be ignored, in line with the findings of other studies in Spain (Aznar-Martínez et al., 2023). Regarding sexual orientation, the levels of pornography consumption are no higher in the LGB group than in their heterosexual peers, contrary to previous studies (Böthe et al., 2019). However, it should be borne in mind that the more frequent use of pornography by adolescents from sexual minorities may result from their unmet needs with regard to information about their sexuality, and the lack of significant differences obtained in the present study could mean that there is greater access to information among these young people. In relation to ethnic groups, no significant differences have been found, contrary to previous studies (Rothman et al., 2021). The consumption of pornography was more prevalent among adolescents who had suffered some form of online sexual victimization. Similarly, this behaviour was reported to a greater extent by the group of adolescents who perpetrated online sexual violence, presenting almost four times the risk of pornography consumption. We must also bear in mind that the experience of sexual victimization and pornography consumption have been confirmed as risk factors for the perpetration of sexual violence among European male adolescents (Kjellgren et al., 2010) and European female adolescents (Kjellgren et al., 2011).

The consumption of pornography, therefore, is a problem that must be addressed since it influences the sexual and reproductive health of adolescents (Román García et al., 2022), as well as the perpetration of sexual violence (Waterman et al., 2022). Nevertheless, research on prevention to reduce the possible negative consequences of pornography use in this age group is still in its early stages (Testa et al., 2023).

At the time of completion of this work, comprehensive legislation for the protection of minors in digital environments has not yet been approved in Spain or in many other European countries. It is hoped that, in the design of these measures, the available evidence will be taken into account and that the possible resources implemented will be based on the reality of sexual violence in the online environment. We must work together to address the risk to which children and adolescents have been exposed for too long and to ensure that the Internet and technology

are only beneficial sources for the development, learning and socialization of children and adolescents.

Limitations

This study presents a number of limitations that must be taken into account when interpreting the results. Firstly, the responses of the participants are based on self-reporting tools, which may be influenced by cultural and gender factors, as well as by the interpretation that different groups might make of the forms of violence evaluated (Sawyer et al., 2008). In turn, reporting biases associated with difficulties in recalling specific incidents may have occurred due to the retrospective assessment of victimization and perpetration in the study, although the fact that the evaluation period covers the past year significantly reduces this risk. Another limitation of this work is that not all possible types of online sexual violence have been included, although the forms most frequently analysed in other studies have been evaluated. In the same vein, the forms of online sexual violence evaluated are different in their format of victimization and perpetration, so it has only been possible to draw comparisons for sexual solicitation. The cross-sectional design of the study has not allowed us to know whether, in cases where adolescents have reported being both victims and perpetrators of online sexual violence, victimization precedes or is a consequence of antisocial behaviour (Ousey et al., 2011), which paves the way for future longitudinal studies to explore in greater depth the mechanisms of overlap. Likewise, the cross-sectional design does not allow for an in-depth exploration of the relationship between pornography consumption and experiences of victimization and perpetration of online sexual violence, and more comprehensive studies are required that provide more information about a possible causal relationship.

Conclusion

Online sexual violence is a reality faced by an important group of adolescents in Spain, in their profile as victims and perpetrators. We should also add the frequent consumption of pornography, especially among adolescent males. This consumption is associated with the

perpetration of violent online sexual behaviours, which should promote the implementation of prevention programmes from an intersectional perspective to facilitate an evidence-based reduction of risk.

Table 1. *Characteristics of the sample*

		Total	
		<i>n</i>	%
Sex			
	Male	1,858	46.2
	Female	2,061	52.6
Age			
	14-15 years of age	2,167	53.9
	16-17 years of age	1,857	46.1
Sexual orientation			
	Heterosexual	3,294	81.9
	LGB	559	13.9
Ethnic group			
	European	3,195	79.4
	Other	829	20.6
Place of birth			
	Spain	3,654	90.8
	Another country	339	8.4
Living arrangements			
	Parents (one or both)	3,866	96.1
	Other family members	132	3.3
	Residential centre	26	0.6

Note: LGB = Adolescents who identify as gay, lesbian, bisexual, or other orientation.

Table 2. Prevalence of online victimization and perpetration based on sex, age, sexual orientation and ethnicity

	Sex				Age		Sexual orientation				Ethnic group		
	Total <i>n</i> (%)	M <i>n</i> (%)	F <i>n</i> (%)	<i>OR</i>	14-15 years of age	16-17 years of age	<i>OR</i>	Hetero <i>n</i> (%)	Other <i>n</i> (%)	<i>OR</i>	European <i>n</i> (%)	Other <i>n</i> (%)	<i>OR</i>
					<i>n</i> (%)	<i>n</i> (%)							
Online	486	110	377	3.56***	262 (12.1)	241 (13)	1.18	344	148	3.09***	393	110	1.09
victimization	(12.1)	(5.9)	(18.3)	[2.85-4.45]			[0.90-1.31]	(10.4)	(26.6)	[2.48-3.84]	(12.3)	(13.3)	[0.87-1.37]
Sexual	447	97	352	3.74***	238 (11)	225 (12.1)	1.12	316	138	3.09***	362	101	1.09
solicitation	(11.1)	(5.2)	(17.1)	[2.96-4.73]			[0.92-1.36]	(9.6)	(24.7)	[2.47-3.87]	(11.3)	(12.2)	[0.86-1.37]
Online	123	33	87	2.44***	75 (3.5)	52 (2.8)	0.80	79	44	3.48***	95 (3)	32 (3.9)	1.31
grooming	(3.1)	(1.8)	(4.2)	[1.62-3.66]			[0.56-1.15]	(2.4)	(7.9)	[2.38-5.09]			[0.87-1.97]
Online	64	30	28	0.84	44 (2)	21 (1.1)	0.55*	53	10	1.11	45 (1.4)	20 (2.4)	1.73*
perpetration	(1.6)	(1.6)	(1.4)	[0.50-1.41]			[0.33-0.93]	(1.6)	(1.8)	[0.56-2.20]			[1.02-2.95]
Sexual	50	24	23	0.86	34 (1.6)	17 (0.9)	0.58	42	8 (1.4)	1.12	35 (1.1)	16 (1.9)	1.78
solicitation	(1.3)	(1.3)	(1.1)	[0.49-1.53]			[0.32-1.04]	(1.3)		[0.53-2.41]			[0.98-3.23]
Sextortion	26	16	8	0.45	18 (0.8)	8 (0.4)	0.52	22	3 (0.5)	0.8	19 (0.6)	7 (0.8)	1.42
	(0.7)	(0.9)	(0.4)	[0.19-1.05]			[0.22-1.19]	(0.7)		[0.24-2.69]			[0.60-3.40]

* $p < .05$ *** $p < 0.001$

Table 3. *Consumption of pornography based on sex, age, sexual orientation and ethnicity*

	Consumption of pornography		Frequency of pornography consumption				<i>M (SD)</i>	<i>t</i>
	<i>n (%)</i>	<i>OR</i>	Once a year	Every month	Once a week	Every day or almost every day		
Sample total	2.076 (51.6)	-	760 (18.9)	386 (9.6)	503 (12.5)	427 (10.6)	2.18 (1.42)	-
Sex								
Male	1.391 (75)	0,15***	344 (18.6)	263 (14.2)	409 (22.1)	375 (20.2)	2.94 (1.49)	36.38***
Female	626 (30.5)	[0.13-0.17]	398 (19.4)	110 (5.4)	82 (4)	36 (1.8)	1.40 (0.90)	
Age								
14-15 years of age	990 (45.9)	1.67***	375 (17.4)	172 (8)	238 (11)	205 (9.5)	2.04 (1.38)	-6.75***
16-17 years of age	1.086 (58.6)	[1.47-1.89]	385 (20.8)	214 (11.5)	265 (14.3)	222 (12)	2.35 (1.43)	
Sexual orientation								
Heterosexual	1.715 (52.2)	1.15	610 (18.6)	318 (9.7)	417 (12.7)	370 (11.3)	2.21 (1.43)	.30
LGB	310 (55.7)	[0.60-1.38]	130 (23.3)	55 (9.9)	76 (13.6)	49 (8.8)	2.19 (1.36)	
Ethnic group								
European	1.646 (51.6)	1.03	611 (19.2)	302 (9.5)	396 (12.4)	337 (10.6)	2.18 (1.41)	-.717
Other	430 (52.4)	[0.89-1.20]	149 (18.1)	84 (10.2)	107 (13)	90 (11)	2.22 (1.43)	
Online sexual victimization								
Victim	294 (58.4)	1.36***	139 (27.6)	45 (8.9)	53 (10.5)	57 (11.3)	2.22 (1.38)	-.705
Non-victim	1.782 (50.8)	[1.13-1.65]	621 (17.7)	341 (9.7)	450 (12.8)	370 (10.5)	2.18 (1.42)	
Online sexual perpetration								
Perpetrator	52 (80)	3.80***	12 (18.5)	11 (16.9)	11 (16.9)	18 (27.7)	3.14 (1.51)	-5.50***
Non-perpetrator	2.024 (51.3)	[2.06-7.00]	748 (19)	375 (9.5)	492 (12.5)	409 (10.4)	2.17 (1.41)	

Note: *** $p < 0.001$

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