



Online grooming among Portuguese adolescents and the COVID-19 lockdown: Relationship with other types of victimization

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ABSTRACT

Background: Online grooming is the sexual solicitations and interactions between an adult and a minor, aiming to sexually abuse or obtain sexual material for the sexual satisfaction of themselves or others. Experiencing victimization during childhood or adolescence increases the probability of exposure to other types of victimization. **Objectives:** This study analyses the relationship between grooming, other types of juvenile victimization, and consensual sexting. We compare victims and non-victims of online grooming concerning sexting, sextortion, juvenile victimization, and online parental control. We also aim to identify the prevalence of online grooming in the present sample during and after the COVID-19 pandemic confinement and the impact of other types of juvenile victimization on grooming. **Participants:** The sample comprised 106 Portuguese adolescents (57 boys and 49 girls) aged 12 to 15. **Method:** Participants answered the sociodemographic questionnaire that contemplates online parental control and sextortion items, the Questionnaire for Online Sexual Solicitations and Interactions with Adults, the Sexting Questionnaire, and the Juvenile Victimization Questionnaire. **Results:** The results showed a positive correlation between online grooming, juvenile victimization, and sexting, as well as statistically significant differences between victims and non-victims of online grooming. Victims showed higher levels of sexting, sextortion, and other juvenile victimization. It also revealed higher levels of sexting and online grooming during and after the COVID-19 lockdown. Predictive validity showed that peer/sibling victimization and sexual victimization predicted online grooming. **Conclusions:** This study promotes a better understanding of online grooming by exploring the association between different types of victimization.

1. Introduction

The concept of grooming emerged in 1985 (Craven et al., 2006; Lanning, 2018; Wolf, 1985) and is highly correlated to child sexual abuse. Although there is a lack of a consensual definition, it characterizes the involvement of an individual under 18 years old in activities with the objective of sexual involvement and gratification of an adult or an older minor, whose age or stage of development puts him in a position of power, authority, responsibility, and trust (Branca et al., 2016). This practice also extends to the virtual world, where the internet works as a means of communication that does not involve physical contact and is often used for illicit purposes, such as persuading children and adolescents to engage in sexual involvement (Moraes & Aguado, 2016). Therefore, online grooming is considered a process where an adult uses

digital strategies to obtain sexual material or to sexually abuse a minor (Barbosa & Manita, 2019; Branca et al., 2016; Calvete et al., 2021; Forni et al., 2020; Hernández et al., 2021; Montiel et al., 2016; Tamarit et al., 2021; Wachs et al., 2016).

Different behaviors are associated with grooming, namely online sexual solicitation by an adult and sexual interactions between the minor and the groomer (offender). The first refers to any request to a child or adolescent to address the issue or obtain sexual information and material. The interaction between the adult and the minor may include the suggestion of personal meetings and requests for information or sexual material to the minor, aiming to satisfy the sexual needs of the aggressor or others (e.g., sharing and selling pornographic videos) (Branca et al., 2016). On the other hand, sexual interactions between minors and adults refer to cybersex and face-to-face meetings to carry

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out sexual practices or sexual abuse of a minor. Thus, the main difference between the two is that sexual solicitation does not imply a response from the child or adolescent. In contrast, sexual interactions can lead to online or in-person sexual practice between individuals (Santisteban & Gamez-Guadix, 2018).

Online grooming also requires activities associated with sexting, as this type of victimization usually starts with sending or receiving personal messages and sharing sexual photographs or videos before the relationship becomes abusive (Hernández et al., 2021; Mori et al., 2020; Tamarit et al., 2021). This type of victimization could be considered a normative behavior among adolescents but also could represent an abusive and aggressive action to sexually satisfy an adult (Barroso et al., 2021; Gámez-Guadix et al., 2017b). In addition, online grooming is also related to sextortion, using these means as a manipulation and blackmail tool for victims to act in a way that benefits the aggressor or other adults (Klettke et al., 2019; Schoeps et al., 2020). Thus, the strategies used by the aggressor can range from explicit sexual conversations or video calls to face-to-face sexual abuse (Gámez-Guadix et al., 2018). The duration of this type of victimization differs depending on the situation and context, as it depends on the offenders' goals and the victims' reactions and needs (Gámez-Guadix et al., 2017a).

The United States of America was one of the first countries to carry out a legal evolution that allows criminalizing online grooming to promote child protection. Portuguese legislation also criminalizes acts that violate the rights and interests of children, whether in the digital context or face-to-face, from the formulation of some articles (e.g., 171.º, 176.º) regarding the sexual abuse of children and the adherence to the Global Alliance against the Sexual Abuse of Children Online stipulated in 2012 (Procuradoria-Geral da República, 2020). In 2015, a law was created in Portugal to punish adults who entice minors through information and communication technologies (DRE, 2023).

Sexual abuse and exploitation of children online are occurring more frequently. The Internet Watch Foundation identified 255,588 cases of child sexual abuse imagery in 2022 (IWF, 2022). Thus, sexual solicitations are among the most frequent daily dangers young people face in online relational contexts. One in seven children and adolescents between 10 and 17 suffer this type of victimization at least once a year (Mitchell et al., 2007). Similarly, Madigan et al. (2018) estimate that adolescents' prevalence of sexual solicitations and unwanted online sexual exposure is 11.5 % and 20.3 %, respectively. However, despite adopting the term grooming for several decades, there is still little literature exploring the prevalence of grooming in the online context and its impact on underage victims (Craven et al., 2006; Wachs et al., 2012).

However, in Europe, 18.5 % of young people were victims of online grooming, of which girls stand out as being at greater risk (Wachs et al., 2016), while in Spain, this percentage is about 12 % (Peris et al., 2021). To our knowledge, only a few Portuguese scientific studies exploring online grooming have been published. Branca et al. (2016) explored the experiences, perceptions, and insecurities of 152 participants, aged between 11 and 16, regarding their online grooming victimization. Their finding revealed a lack of knowledge about this concept among the participants and a 20.5 % incidence of at least one form of online grooming victimization. Barbosa and Manita (2019) studied online grooming processes from interviews with offenders and victims, showing that offenders adapt their strategies according to their objectives to become more appealing to victims. There is also a literature review where the authors seek to reflect on possible prevention and intervention plans for victims of online grooming, suggesting the creation of primary intervention programs that promote safe internet use and how to prevent sexual offenses in this context (Mota & Manita, 2021).

According to Satar et al. (2021), previous experiences of violence during childhood or adolescence can increase the adolescents' predisposition to suffer other types of victimization. Revictimization compromises the well-being and psychological adaptation of children and

adolescents in the short, medium, and long term (Feng et al., 2019; Sani et al., 2021). Thus, these individuals are more likely to experience multiple victimizations, such as negligence, witnessing violent events, or suffering psychological, physical (Almeida et al., 2020), and sexual abuse (Almeida et al., 2020; Satar et al., 2021). Therefore, there is a need to understand the risk factors associated with online grooming, both internationally and nationally (Branca et al., 2016; Craven et al., 2006; Wachs et al., 2012).

The use of the internet as a method of communication is progressively more frequent among young people (Calvete et al., 2021; Tamarit et al., 2021). Considering that in the 21st century, they are influenced by the digital era, it provides new opportunities for them to establish and maintain intimate relationships and explore their sexuality through social networks or video calls (Hernández et al., 2021; Tamarit et al., 2021). Although the internet facilitates the collection of information, problematic use of these methods increases the probability of experiencing unwanted situations (Mitchell et al., 2007; Tamarit et al., 2021), such as victimization by online grooming (Calvete et al., 2021; Hellevik, 2019; Tamarit et al., 2021; Whittle et al., 2013). This may lead to psychosocial problems that interfere with the victims' physical and emotional health and well-being (Peris et al., 2021; Tamarit et al., 2021). Thus, it can be stated that the communication and social interaction process has been reconfigured through the digital paradigm (Tamarit et al., 2021), especially during the COVID-19 pandemic outbreak situation (Adibelli & Sumen, 2020).

In response to this pandemic, governments worldwide enforced a lockdown to contain the spread of the virus. This lockdown involved closing educational institutions and enforcing contact restrictions between individuals (Cockerham et al., 2021; Fernandes et al., 2020). Studies have shown adolescents value social interaction (Cockerham et al., 2021). During the COVID-19 lockdown, they increased internet and social media usage (Fernandes et al., 2020). Similarly, as internet use increases, the number of young people who suffer from online victimization also tends to increase (UNICEF, 2020). Several studies showed that cybervictimization increased during the COVID-19 pandemic (e.g., Mkhize & Gopal, 2021; Trompeter et al., 2022), emphasizing the long-term adverse consequences of cybervictimization (Camerini et al., 2020).

Some authors identified that online victimization, such as sexting, decreased during this period due to the constant presence of parents controlling their children or adolescents' access to the digital world during COVID-19 confinement (Gassó et al., 2021). Other studies showed that as parental restrictions and supervision decrease, adolescents' tendency to engage in high-risk internet behavior increases (e.g., Álvarez-García et al., 2019; Whittle et al., 2013). Thus, parental involvement works as a protective factor that minimizes the effects of problematic internet use (Whittle et al., 2013), considering that it implies implementing different strategies to control minor access to online content (Kopecký, 2016; Lukavská et al., 2020).

Considering that there are just a few studies focused on the victimization of online grooming worldwide (Forni et al., 2020) and the increased cases of youth online victimization (Trompeter et al., 2022), it is essential to understand the frequency and severity of this problem in the Portuguese context (Branca et al., 2016). It is also essential to comprehend its evolution during the COVID-19 pandemic lockdown and see if it relates to critical variables such as parental internet control and other types of victimization during previous years. Therefore, the objectives of this study are to: a) characterize the prevalence of online grooming victimization among our sample of Portuguese adolescents; b) analyze the relationship between online grooming, consensual sexting, and other juvenile victimization; c) explore if there are differences between victims and non-victims of online grooming concerning online parental control, consensual sexting, sextortion, and other juvenile victimization; and d) identify the online grooming victimization during and after the COVID-19 pandemic confinement, e) analyze the predictive validity of online grooming.

The results of this research will allow us to extend the scientific knowledge about online grooming, leading to identifying some risk factors of this type of victimization. Identifying some crucial variables involved in this problem can be essential to developing prevention programs with youth, their parents, and professionals who work in the field.

2. Method

2.1. Participants

The sample of this study comprised 106 adolescents aged between 12 and 15 years ($M = 13.20$, $SD = 1.07$). From the total sample, 57 (53.8 %) were boys, and 49 (46.2 %) were girls. Most participants' parents were married or in a de facto relationship ($n = 67$, 63.2 %), followed by 27 (25.5 %) who were divorced, 9 (8.5 %) who were single, and 3 (2.8 %) who were widowed.

2.2. Procedure

The questionnaires were distributed in five public educational establishments to Portuguese students who could read, aged between 12 and 15 from February to April 2022. Data were collected equally from each educational establishment. We contacted each educational establishment and requested authorization for data collection. The objectives and procedures of the study were explained, ensuring the confidentiality of the results and anonymity of participants before parents signed the informed consent. Furthermore, the study required the verbal consent of all adolescent participants to partake in the study. The confidentiality of the results and the anonymity of subjects were ensured. The respective institution directors gave authorization for data collection in each institution.

To guarantee that the data collected was anonymous and confidential, participants only answered the protocol after informed consent from the school principal, parents or legal guardians, and the participants themselves. Since institutions were still using safety procedures regarding the COVID-19 pandemic, there was also the need to adapt the protocol to an online version so that participants could answer remotely. The online link with the protocol was only available after the legal guardian's consent was collected. All participants who indicated that online sexual solicitation and/or interaction with adults (measured by the QOSSIA) occurred at least once were considered victims of online grooming. Similarly, we consider three questions of parental control to define online parental control. The study followed the ethical principles outlined in the Declaration of Helsinki (World Medical Association, 2013) and was approved by the Scientific Committee and the Ethics Committee of the Egas Moniz School of Health & Science.

2.3. Measures

Sociodemographic data, sextortion, and online parental control. We assessed the following sociodemographic data through a brief questionnaire: age, gender, parental marital status, access to a computer or mobile phone, and the use of social media as a way of communication. Since there is no instrument to measure sextortion, the sociodemographic questionnaire also included six items to measure this type of victimization. All the items were based on the scientific literature (e.g., Eaton et al., 2022). They were scored on a dichotomous scale ("Yes" or "No") (e.g., "Has anyone ever threatened to expose sexual content about you to force you to do something or for other reasons such as revenge or humiliation?"). Similarly, a checklist was created to measure online parental control with three items ("My parents or the adult I live with control my time on the internet.", "My parents or an adult I live with control whom I talk to on the internet.", and "My parents or an adult I live with control the websites I use."). The items were created based on the scientific literature (e.g., Lukavská, 2020) and were scored on a

dichotomous scale ("Yes" or "No").

Questionnaire for Online Sexual Solicitation and Interaction with Adults (QOSSIA; Gámez-Guadix et al., 2017a, Portuguese version: Almeida & Pereira, in press). This questionnaire measures the presence of abusive sexual solicitations and interactions with an adult (18 years old or older) and applies to young people between the ages of 12 and 15. It is composed of 10 items, divided into Sexual Solicitation and Sexual Interaction, and is scored on a 4-point Likert-type scale ("Never"; "Once or twice"; "Three or five times"; "Six or more times"). If participants had experienced Sexual Solicitations or Interaction, we also asked how many adults the victimization occurred, including age, sex, and if they had known the adults offline. Higher scores in QOSSIA indicate a higher prevalence of victimization. This questionnaire showed good internal consistency in the Portuguese version with Cronbach's Alphas of 0.90 in the Sexual Solicitation subscale and 0.79 in the Sexual Interaction subscale (Almeida & Pereira, in press). The present study also showed good internal consistency in the questionnaire, with a total Cronbach's Alpha of 0.96. The subscale Sexual Solicitation had Cronbach's Alphas of 0.94 and 0.90 in Sexual Interaction. Participants responded to the QOSSIA, considering the moments during and after confinement due to COVID-19.

Sexting Questionnaire (SQ; Gámez-Guadix et al., 2017b; Portuguese version: Almeida & Pereira, in press). This questionnaire measures how often teens have sent sexual content online voluntarily and is applied to adolescents from 12 to 17 years. It is composed of three items, scored on a 4-point Likert-type scale ("Never"; "From 1 to 3 times"; "From 4 to 10 times"; "More than 10 times"). Higher scores indicate a higher prevalence of victimization. This questionnaire showed good internal consistency in the Portuguese version, with a Cronbach's Alpha of 0.84 (Almeida & Pereira, in press). The present study also showed good internal consistency in the questionnaire, with a Cronbach's Alpha of 0.94. Participants responded to the SQ, considering the moments during and after confinement due to COVID-19.

Juvenile Victimization Questionnaire (JVQ; Finkelhor et al., 2005; Portuguese version: Almeida et al., 2020). The JVQ questionnaire assesses the presence of victimization and poly-victimization during adolescence in young people aged 12 to 17. This questionnaire is composed of 34 items measured on a dichotomous scale ("Yes" or "No") and grouped into five modules: Conventional Crimes, Child Maltreatment, Peer and Sibling Victimization, Sexual Victimization, and Witnessing and Indirect Victimization. Higher scores in this questionnaire indicate higher levels of juvenile victimization. According to the Portuguese version, this questionnaire has a total Cronbach's Alpha of 0.94 (Almeida et al., 2020). In the present study, the internal consistency of this questionnaire indicates a total Cronbach's Alpha of 0.87. Regarding Conventional Crimes, Cronbach's Alpha was 0.82, Child Maltreatment was 0.56, Peer and Sibling Victimization was 0.59, Sexual Victimization was 0.88, and Witnessing and Indirect Victimization was 0.59.

2.4. Statistical analyses

Cronbach's Alphas were conducted to verify the internal consistency. Descriptive analysis was used to characterize the sample regarding the sociodemographic data and online sexual victimization. Pearson's correlations were performed to verify the relationship between the scales and subscales used. Then, an Independent-Sample *t*-test was also conducted to explore the differences between victims and non-victims of online grooming in all the instruments and subscales. A Paired-Sample *t*-test was used to confirm if these differences were also present during and after the COVID-19 pandemic lockdown in Portugal. Finally, multiple linear regressions were also performed to analyze the predictive validity of online grooming. Data were analyzed using IBM Statistical SPSS (version 27).

3. Results

3.1. Descriptive analyses

The results showed that 104 (98.1 %) participants had access to a cellphone or computer and that 92 (86.8 %) used social media as a daily basis tool of communication. Regarding parental internet control, 5 (4.7 %) participants identified that parents controlled whom they talked to online, 29 (27.4 %) controlled the internet sites used, and 20 (18.9 %) had their children’s social media passwords. The results also revealed that 23 (21.7 %) minors engaged in sexting before the COVID-19 pandemic lockdown and 16 (15.1 %) during and after this confinement.

Regarding victimization, 7 (6.6 %) participants were victims of sextortion, and 33 (31.1 %) were victims of online grooming, of which 17 (51.5 %) were girls. The results also showed that 15 (14.2 %) were victims of online grooming before the pandemic lockdown and 25 (23.6 %) during and after this confinement. Of those who experienced online grooming victimization, the results also showed a prevalence of online sexual solicitations ($n = 32, 30.2\%$) rather than online sexual interactions ($n = 20, 18.9\%$). Concerning the number of people with whom this type of victimization occurred, 30 (28.3 %) only talked with one individual, 3 (2.8 %) with two or three different individuals, and 1 (0.9%) with four or five different individuals.

The results revealed that 57 % of the total sample and 81.8 % of victims of online grooming were also victims of some other type of victimization at least once in their lives. The frequency results also showed that for victims of online grooming, the Juvenile Victimization mean was 4.64 ($SD = 4.76$), of which Conventional Crimes was 1.61 ($SD = 2.29$), Child Maltreatment was 0.73 ($SD = 0.84$), Peer or Sibling Victimization was 0.91 ($SD = 1.13$), Sexual Victimization was 0.82 ($SD = 1.65$), and Witnessing or Indirect Victimization was 0.58 ($SD = 0.87$).

3.2. Correlation analyses

The results showed positive, statistically significant correlations between Online Grooming and its subscales, Sexual Solicitations, and Sexual Interactions. Online Grooming had a positive, statistically significant correlation with Sexting, Conventional Crimes, Child Maltreatment, Peer or Sibling Victimization, Sexual Victimization, and JVQ (see Table 1).

3.3. Comparison analyses

Results showed differences between groups of victims and non-victims of Online Grooming. Victims of online grooming had higher scores in Sexting ($M = 0.58, SD = 0.50$), [$t(104) = -4.70, p < 0.001$], Sextortion ($M = 0.15, SD = 0.36$), [$t(104) = -2.43, p < 0.001$], Conventional Crimes ($M = 1.61, SD = 2.29$), [$t(104) = -3.17, p < 0.001$], Child Maltreatment ($M = 0.73, SD = 0.84$), [$t(104) = -3.81, p < 0.001$], Peer and Sibling Victimization ($M = 0.91, SD = 1.13$), [$t(104) = -3.79, p < 0.001$], Sexual Victimization ($M = 0.82, SD = 1.65$), [$t(104) = -3.45,$

$p < 0.001$], Witnessing and Indirect Victimization ($M = 0.58, SD = 0.87$), [$t(104) = -1.92, p = 0.020$], and JVQ ($M = 4.64, SD = 4.76$), [$t(104) = -4.86, p < 0.001$]. The effect size, as measured by Cohen’s d , indicates a large effect of Sexting, Sextortion, Child Maltreatment, Peer and Sibling Victimization, and JVQ; a medium effect of Conventional Crimes and Sexual Victimization; and a small effect of Witnessing and Indirect Victimization. There were no differences between victims and non-victims of Online Grooming in gender and Online Parental Control (see Table 2).

A Paired-Sample t -test was conducted to compare Online Grooming victimization before, during, and after the COVID-19 lockdown. There were significant differences in the scores before confinement ($M = 0.81, SD = 2.62$), [$t(105) = -3.542, p = 0.001$] and during and after confinement ($M = 2.03, SD = 4.87$), [$t(105) = -3.542, p = 0.001$], suggesting higher levels of Online Grooming during and after COVID-19 lockdown.

The same test was performed to compare the prevalence of Sexting before, during, and after the COVID-19 lockdown. The results also showed higher levels of Sexting during and after the confinement, as there were significant differences in scores before ($M = 0.64, SD = 1.38$), [$t(105) = -4.623, p < 0.001$], and during and after this confinement ($M = 1.55, SD = 2.94$), [$t(105) = -4.623, p < 0.001$].

3.4. Regression analysis

The explanatory model of Online Grooming using a Multiple Linear Regression showed that the model is significant. Durbin-Watson was

Table 2
Differences between victims ($n = 33$) and non-victims ($n = 73$) of Online Grooming and Online Parental Control, Sexting, Sextortion, and other types of Juvenile Victimization.

	Victims		Non-victims		t	p	Cohen’s d
	M	SD	M	SD			
Online Parental Control	1.52	1.41	1.85	1.68	0.99	0.298	0.21
Sexting	0.58	0.50	0.16	0.37	-4.70	<0.001	0.97
Sextortion	0.15	0.36	0.03	0.16	-2.43	<0.001	0.82
Conventional Crimes	1.61	2.29	0.58	1.07	-3.17	<0.001	0.65
Child Maltreatment	0.73	0.84	0.18	0.61	-3.81	<0.001	0.80
Peer and Sibling Victimization	0.91	1.13	0.25	0.66	-3.79	<0.001	0.80
Sexual Victimization	0.82	1.65	0.07	0.59	-3.45	<0.001	0.72
Witnessing/Indirect Victimization	0.58	0.87	0.25	0.80	-1.92	0.020	0.40
JVQ	4.64	4.76	1.32	2.29	-4.86	<0.001	0.99

Notes. JVQ = Juvenile Victimization Questionnaire.

Table 1
Correlations between Online Grooming, Sexting, and other types of Juvenile Victimization ($n = 106$).

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Sexual Solicitations	–	0.855**	0.978**	0.491**	0.261**	0.351**	0.538**	0.614**	0.121	0.535**
2. Sexual Interactions		–	0.944**	0.525**	0.242*	0.334**	0.448**	0.700**	0.125	0.528**
3. Online Grooming total			–	0.522**	0.263**	0.357**	0.521**	0.671**	0.127	0.552**
4. Sexting				–	0.219*	0.295**	0.622**	0.461**	0.064	0.467**
5. Conventional Crimes					–	0.297**	0.533**	0.224*	0.419**	0.806**
6. Child Maltreatment						–	0.401**	0.345**	0.426**	0.639**
7. Peer/Sibling Victimization							–	0.361**	0.328**	0.753**
8. Sexual Victimization								–	0.114	0.589**
9. Witnessing/Indirect Victimization									–	0.621**
10. JVQ										–

Notes. * $p < .05$, ** $p < .001$.

1.70, and VIF was < 3. Age, Sex, Parental Control, Sexting, Conventional Crimes, Child Maltreatment, and Witnessing and Indirect Victimization are not significant. For this reason, we performed a new model (Table 3) only with significant paths. The model is significant ($F(2,103) = 60.34, p < 0.001$) and explains 53 % of the variance of Online Grooming, with a large effect size of 1.17 (Cohen, 2013). Peer and Sibling Victimization ($\beta = 0.32, p < 0.001$) and Sexual Victimization ($\beta = 0.56, p < 0.001$) are significant predictors of Online Grooming.

4. Discussion

This study aimed to characterize the prevalence of online grooming victimization among our sample of Portuguese adolescents. Since research showed that experiencing one type of victimization during childhood or adolescence increases the probability of suffering other types of victimization (Satar et al., 2021), we also analyze the relationship between online grooming and other types of victimization. We examined the differences between victims and non-victims of online grooming concerning online parental control, consensual sexting, sextortion, and other juvenile victimization. We identified online grooming during and after the COVID-19 pandemic confinement. We also verified the predictive validity of online grooming.

The present study showed that 86.8 % of the participants used social media daily to communicate with others, demonstrating the influence of the digital era among adolescents, who increasingly rely on the internet to perform daily tasks, as shown by Tamarit et al. (2021). According to these authors, internet use has benefits and disadvantages, such as online victimization, which is becoming a significant concern among parents, teachers, and health professionals. Furthermore, our findings have shown that 51 % of participants' parents controlled their internet use by controlling with whom they talked, the sites they used, or having their children's social media passwords. This prevalence is quite similar to another one that identified that 57 % of parents affirmed that to monitor, they stay close during the online activities of their children's internet use (CGI.BR, 2013).

According to the most recent data (NSPCC, 2021), in England and Wales, there were 5,441 inappropriate sexual communication with a child in 2020 and 2021, reporting a 70 % increase compared to the recorded crimes from the previous years. From the present study, 31.1 % of the total sample were victims of online grooming at least once in their lifetime, of which 30.2 % experienced sexual solicitations and 18.9 % had sexual interactions. These results are slightly higher than those previously shown in the scientific literature regarding online grooming victimization in Europe (Wachs et al., 2016), Italy (Longobardi et al., 2021), and Spain (Peris et al., 2021). These differences may be explained by the sample characteristics, by the increase in the use of the internet by adolescents in the last few years, promoting higher levels of online victimization (UNICEF, 2020), and because Portugal is one of the few countries that have legislations that also criminalizes digital violence against children rights and interest, increasing the probability of the population recognizing this form of victimization (Procuradoria-Geral da República, 2020). Likewise, the prevalence of sexual solicitations is also slightly higher than those shown by Madigan et al. (2018), who demonstrated a prevalence of 11.5 %, or Pinto-Cortez et al. (2020), who revealed an incidence of 17 % in adolescents. Regarding gender differences, our results showed that 51.5 % of online grooming victims were girls, showing no significant differences between genders, as indicated by Wachs et al. (2016). These authors revealed that girls were at a higher

risk of becoming victims of this type of victimization.

This research showed that sexual solicitations and interactions correlate with online grooming, in line with Santisteban and Gamez-Guadix's (2018) study. These authors also stated that both these behaviors conceptualize the online grooming phenomenon, as they reflect the main strategies used by the aggressors. As such, our study agrees that this type of online victimization is characterized by any sexual solicitation made to a minor (e.g., requesting sexual pictures or videos of a child or adolescent) or any sexual interaction established, always with the intent to satisfy the adults' sexual desires and needs, both in an online and offline context. The scientific literature also discloses that these strategies are based on trust and influence, where the groomer aims to obtain minors' consent to sexually engage or display themselves (Gámez-Guadix et al., 2017a; Hernández et al., 2021). Therefore, the frequency of sexual solicitations and interaction will increase as online grooming victimization increases. Likewise, we found a correlation between online grooming and sexting, indicating that victims of online grooming tend to engage more in sexting as online grooming increases. These results are similar to those found by Hernández et al. (2021), Mori et al. (2020), and Tamarit et al. (2021).

Although there is a lack of scientific literature to identify the relationships between previous victimizations and online grooming, some authors disclose that when violence occurs during childhood or adolescence, it increases the probability of suffering similar or different types of victimization (Almeida et al., 2020). Our study is in line with these results, also showing a relationship between almost all the types of victimization studied. In Portugal, according to CNPDPCJ (2021), in 2020, there were 39 366 new cases of children and adolescents needing intervention for suffering some victimization, totaling 66 529 child interventions. The present research showed that 57 % of the total sample had experienced at least one type of victimization in their lifetime. These results are similar to those shown in previous research on juvenile victimization in a community sample in Portugal (50 %, Martins et al., 2018; and 67 %, Almeida et al., 2020) but slightly lower than those reported in Chile (92.6 %, Pinto-Cortez et al., 2020) and Spain (83 %, Segura et al., 2018). However, there is a discrepancy compared to the results from another investigation with a sample of Spanish adolescents involved in the justice system (100 %, Pereda et al., 2015). The present study also revealed a prevalence of 81.8 % of participants who suffer at least one type of victimization in their lifetime are also victims of online grooming. As such, it shows that as juvenile victimization increases, online grooming will also increase. Further research is needed to determine this revictimization's impact on adolescents in the short, medium, and long term.

In addition, when comparing online grooming victims with non-victims, the results from the current study revealed that victims have a higher tendency to engage in sexting, which is in line with the correlation previously mentioned (Hernández et al., 2021; Mori et al., 2020; Tamarit et al., 2021). Although sexting is considered normative conduct among youth, it could become a non-consensual aggressive behavior when it is used as a form to adults sexually solicit or interact with a minor, which are characteristics of online grooming (Barroso et al., 2021; Gámez-Guadix et al., 2017b; Tamarit et al., 2021). As such, the results from this study may be justified because the act of online grooming itself requires sending or receiving sexual material on the internet as a daily basis tool of communication. Consequently, as this type of victimization increases, victims will be more predisposed to sexting than those who did not become victims of online grooming

Table 3
Multiple Linear Regression with Online Grooming (n = 106).

Variable	B	β	t	p	Adj R ²	ΔR^2	F
					0.53	0.54	$F(2,103) = 60.34, p < 0.001$
Peer/Sibling Victimization	2.53	0.32	4.48	<0.001			
Sexual Victimization	3.55	0.56	7.74	<0.001			

(Hernández et al., 2021; Tamarit et al., 2021). Similar results were shown in the current study regarding sextortion, emphasizing that even though only a few participants were victims of this type of victimization, those who were victims of online grooming also tend to be victims of sextortion compared with non-victims. These results are consistent with the scientific literature demonstrating that grooming offenders may use the sexual material or information the victim provides to manipulate or intimidate adolescents (Klettke et al., 2019; Schoeps et al., 2020).

The current study revealed that victims of online grooming show higher levels of other juvenile victimization than non-victims. Scientific evidence shows that these individuals are more likely to experience multiple types of victimization (Almeida et al., 2020; Satar et al., 2021), including online victimization (Pereira et al., 2016). According to Sumter et al. (2011) and Martínez-Ferrer et al. (2021), online victimization will also increase among adolescents as offline victimization increases. For example, Martínez-Ferrer et al. (2021) implied that past offline victimization is associated with being a victim of cyberbullying. Therefore, different types of prior victimization could also lead to other victimizations associated with online grooming and offline child sexual abuse (Forni et al., 2020; Hernández et al., 2021; Tamarit et al., 2021). According to Barbosa and Manita (2019), Branca et al. (2016), and Forni et al. (2020), the online grooming offender could approach the victims over the internet to sexually abuse them, using manipulative strategies to encourage them to make a personal encounter. Thus, child sexual abuse is one of the most severe problems associated with online grooming. It is one of the victimizations with the most significant impact on children and adolescents' mental health and well-being (WHO, 2017).

Although the literature suggests that parental control decreases the problematic use of the internet, preventing online victimization (Álvarez-García et al., 2019; Lukavská et al., 2020), especially during the COVID-19 lockdown (Gassó et al., 2021), no differences were found between victims and non-victims of online grooming regarding online parental control of the internet in our study. This may be explained by the fact that online grooming is not constrained by online parental control but could be influenced by a poor relationship between the parent and the adolescent. Boniel-Nissim and Sasson (2018) showed that poor parent-child communication influenced problematic internet use when the minor was also a victim of cyberbullying victimization. Furthermore, Zhu et al. (2021) revealed that the attachment between a child and their parent is a protective factor against the consequences of online victimization. Therefore, further research is needed to analyze if grooming online and the parent-child relationship are correlated.

The present study also showed that online grooming victimization and sexting have a higher incidence during and after the COVID-19 lockdown implemented in Portugal. Our findings corroborate the literature since adolescents have increased their use of social media to communicate in the last few decades. Youth online social interactions are one of the main methods of self-recognition and identity (Tamarit et al., 2021), becoming an essential component of their social and sexual development (Hernández et al., 2021; Tamarit et al., 2021). A study conducted in European countries reported that 44 % of children who have already been victims of cybervictimization reported an increase during the Covid-19 lockdown (Lobe et al., 2021). As this new reality impacts the world population, social distance and confinements are implemented, and consequently, the internet becomes the primary form of communication among adolescents (Fernandes et al., 2020). Therefore, as internet and social media use increases, the severity and frequency of crimes perpetrated online will also increase (Michell et al., 2007), influencing the prevalence of online victimization among adolescents (UNICEF, 2020).

According to scientific evidence, many factors could predict adolescents becoming victims of online victimization. For example, You and Lim (2016) revealed that adolescents' offline victimization perpetrated by peers (e.g., victimization in a school environment) predicts online victimization, such as cyberbullying. Additionally, experiencing sexual

abuse by a family member or unknown individual during adolescence predicts future internet victimization (Helweg-Larsen et al., 2012) and unwanted online sexual harassment from other adolescents and adults (Dahlqvist & Gadin, 2018). As such, the current study corroborates these findings since peer or sibling victimization and sexual victimization explain about half of the online grooming experienced by participants. Therefore, we can conclude that both these victimizations are predictors for online grooming, reinforcing that experiencing traumatic events during adolescence has a long-term impact on youths' lives, enabling the appearance of similar or different types of victimizations in the future (Sani et al., 2021).

5. Limitations

The current research has certain limitations that should be considered for future studies. First, the results were based on self-reports answered online, which, according to Hardre et al. (2012), entails response bias. For future studies, the use of additional measures to evaluate the parents/teachers/peers should be considered. Second, the sample was collected in public educational establishments, and future studies should also include youth in private educational establishments. Third, a checklist was created to measure the presence of online parental control and sextortion. Although it was based on scientific literature, measuring its internal consistency was not possible. Therefore, ensuring they evaluate the concepts with a validated measure is impossible. Fourth, online parental control was studied only from three items, which may have influenced the results obtained and may also justify that no significant differences were found between victims and non-victims regarding online parental control. Thus, we suggest that future research use validated instruments to assess this variable, allowing for a more in-depth investigation of online grooming.

6. Conclusion

Despite the limitation, the present study contributes to advancing scientific knowledge regarding online grooming, complementing the existing Forensic and Health Psychology literature. It also allowed exploring the concept of online grooming among adolescents and the relationship with other types of victimization, which may help promote the development of prevention and intervention programs regarding this online victimization. According to Mota and Manita (2021), there is an urge to invest in primary intervention programs for online grooming in Portuguese since this is a progressively growing problem.

6.1. Practical implications

The present study could improve the common knowledge about online grooming, moving towards a global understanding of the importance of preventing youth victimization and identifying some risk factors that should be considered in prevention programs. Thus, as the knowledge of online grooming victimization increases, it would be possible to prevent it and help those who already are victims cope with it. Similarly, this could influence the development of other intervention programs regarding different types of online victimization since there has been an increase in the violence perpetrated in the digital context (e.g., abusive and aggressive sexting or sextortion).

This finding could be crucial in helping professionals to develop prevention programs for parents, helping them to make their children aware of the risk behaviors for this type of victimization, and allowing them to identify online grooming better and develop prevention programs for youth to empower them in their perception of risk behaviors for grooming victimization. Furthermore, this research shows the importance of creating educational programs to work with education and health professionals on youth victimization and online victimization of youth. Those programs should approach risk factors and strategies that should be adopted to prevent these forms of victimization.

For future studies regarding online grooming, we suggest contemplating more in-depth analyses of the impact of the COVID-19 lockdown on online victimization. We also suggest considering other variables that could influence online grooming than those explored in the present study since recent scientific literature indicated different types of victimization could also influence different forms of online victimization, namely cyberbullying (Mkhize & Gopal, 2021), parent-child relationship (Zhu et al., 2021), family support (Rodríguez-Rivas et al., 2022), and resilience (Brighi et al., 2019).

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CRediT authorship contribution statement

Telma Catarina Almeida: Conceptualization, Validation, Data curation, Formal analysis, Writing – original draft, Project administration, Writing – review & editing, Funding acquisition, Supervision. **Inês Barreiros:** Methodology, Investigation, Formal analysis, Data curation, Writing – original draft.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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