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The research on online child sexual victimization has mainly focused on the sexual solicitation of minors (i.e., sexual requests by an adult), with scarce information available on sexual interactions (e.g., cybersex or meeting in person) in which a minor is exploited by an adult. In the present study, we analyzed the prevalence and risk factors associated with both sexual solicitations and interactions of minors with adults. The sample included 2,731 minors between 12 and 15 years old (50.6% female). The minors completed several self-report questionnaires about sexual solicitations and interactions with adults, including possible risk factors (e.g., sociodemographic variables, Internet use, and psychological adjustment). Of the participants, 15.6% of girls and 9.3% of boys reported sexual solicitations, and 8.2% of girls and 7.4% of boys reported sexualized interactions with adults. Among the variables studied, several appeared related to both sexual solicitations and interactions: older age, having been involved in sexting, being a victim of cyberbullying, having unknown people in friends list, using chat, time spent online on a weekday, and depression symptoms. Gender (being female), using video chat, and instant messaging by computer were significant variables for sexual solicitation but not for sexual interaction; participation in online games was significant only for sexual interactions. Finally, minors reporting sexual interactions presented a higher risk profile than those reporting only sexual solicitations. These findings highlight the relevance of distinguishing between sexual solicitations and sexual interactions and suggest important avenues for prevention programs.

The Internet is a means of communication which brings new contexts for socialization and interaction (e.g., chat rooms or social networks) and which are used by adolescents to openly develop notions of identity and sexuality that might feel more threatening in a face-to-face context (Subrahmanyam, Greenfield, & Tynes, 2004). The widespread use of information and communication technologies (ICTs) creates new risks for this particularly vulnerable population, such as cyberbullying and the use of the Internet to meet strangers (Gámez-Guadix, Borrajo, & Almendros, 2016; Holloway, Green, & Livingstone, 2013; Smith, 2012). In this line of research, recent studies have reported a worrisome increase in minors receiving sexual requests from adults and having sexual interactions with adults (Kloess, Beech, & Harkins, 2014; Whittle, Hamilton-Giachritsis, Beech, & Collings, 2013a; Wolak, Finkelhor, Mitchell, & Ybarra, 2010).

Online child sexual victimization occurs when an adult, using ICTs, persuades and sexually victimizes a minor either in person or through the Internet by obtaining sexual material of the minor (Jones, Mitchell, & Finkelhor, 2012; Quayle & Jones, 2011). It is important to differentiate sexual solicitation by an adult (i.e., requests by an adult to obtain personal sexual information or engage in sexual talk or sexual activities) from sexual interactions between the minor and the adult (e.g., cybersex, meeting in person for sexual contacts; Craven, Brown, & Gilchrist, 2006; Leander, Christianson, & Anders Granhag, 2008; Mitchell, Finkelhor, & Wolak, 2007b; O'Connell, 2003). In this sense, sexual solicitation does not necessarily imply a response from the minor, while sexual interactions can range from online overt interactions, such as sex through a webcam or offline encounters (de Santisteban & Gámez-Guadix, 2017). However, little is known about the differences between adolescents who are only sexually solicited and those with whom adults have actually achieved some sexual contact or interaction.

Online child sexual victimization, including both sexual solicitation and interactions, has attracted growing interest and concern regarding the potential consequences among

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minors. Some studies have even found that victims of sexual crimes involving ICTs are likely to develop psychopathology, such as depressive symptoms and posttraumatic stress disorder (PTSD) (Nur Say, Babadagi, Karabekiroglu, Yüce, & Akbas, 2015; Wells & Mitchell, 2007). A possible additional consequence of online sexual solicitations and interactions is the danger that the sexual material will be available online permanently, which can generate child pornography as well as cause more victimizations when the material cannot be eliminated (Nur Say et al., 2015). With material produced by minors, the offenders have new forms of control and may threaten and frighten their victims to continue and repeat the abuse (Nur Say et al., 2015).

The prevalence of online sexual solicitation and interaction is unclear, and statistics are more developed on sexual solicitation. Studies using surveys of youth between ages 10 and 17 indicate prevalence of sexual solicitation made by adults to be around 5% to 9% of the population (Bergen, 2014). In a 2010 survey in the United States of youth between ages 10 and 17 (Jones et al., 2012), prevalence of sexual solicitation varied from 2% among 10- to 12-year-olds to 14% among 17-year-olds (with an average of 9% across the age range). Other studies provided higher figures; in one study up to 21% of respondents were involved in sexual solicitation (Schulz, Bergen, Schuhmann, Hoyer, & Santtila, 2016; Wachs, Wolf, & Pan, 2012), although the percentage included young people up to 18 years old. Studies have also been conducted with young people up to 19 years old, with prevalence figures of up to 38% (see for example, Wachs et al., 2012).

Online sex offenders seem to be part of a broadly diverse group (Bergen et al., 2015; Wolak et al., 2010). Using the Internet to get a minor involved may be a slow and cumbersome process that could deter more impulsive offenders (Wolak et al., 2010). Quayle, Allegro, Hutton, Sheath, and Lööf (2014) described how online offenders begin with selection of the media through which they will interact with potential victims, such as through chat rooms or social networks. Offenders adapt their language and behaviors, for example, by using adolescent jargon, lying about various aspects of themselves, or even constructing a more desirable new identity (Quayle et al., 2014). In addition, they may use strategies of emotional involvement (Wolak et al., 2010) and even actively study the vulnerabilities of the victims (e.g., psychological problems, low self-esteem) with the aim of developing strategies adapted to the child's needs (de Santisteban & Gámez-Guadix, 2017; Quayle et al., 2014). Concerning the question of pedophilia, the majority of studies with aggressors found that they had no such diagnosis (Briggs et al., 2011; Seto, Wood, Babchishin, & Flynn, 2012). This is congruent with the fact that most studies have observed that online child abusers do not usually solicit children but rather adolescents or even adults (Bergen et al., 2015; Schulz et al., 2016; Wolak et al., 2010). In addition, studies have found that a high percentage of online sexual offenders are under age 25 (Schulz et al., 2016; Wolak & Finkelhor, 2013). Even when it is reasonable that

those adults who first met offline before interacting online (e.g., a former schoolmate, an older sibling of a peer, an older boyfriend or girlfriend) are younger than those who first met online, the scarce research to date has not found age differences based on whether the offenders knew the children initially online or offline (Wolak & Finkelhor, 2013).

Sexual Solicitation, Sexualized Interactions, and Associated Variables

Different factors could increase minors' vulnerability to being victims of sexual solicitation and interactions. For example, some demographic variables, such as sex and age, have been associated with an increased risk of online sexual victimization. Generally, prior studies have found a greater prevalence of victimization of girls (Brå, 2007; Mitchell, Jones, Finkelhor, & Wolak, 2014; Montiel, Carbonell, & Pereda, 2015; Prentky et al., 2010). There are also studies reflecting higher victimization of homosexual minors or minors who are questioning their sexual identities (Gámez-Guadix, Almendros, Borrajo, & Calvete, 2015; Wolak et al., 2010). Regarding age, although studies have had mixed results (Wachs et al., 2012), in most studies, older adolescents—between 14 and 17 years old—are the most frequently victimized (Mitchell et al., 2014; Montiel et al., 2015; Wolak et al., 2010). The educational level and socioeconomic status of victims' parents have also been linked to an increased risk of online victimization (Kowalski, Giumetti, Schroeder, & Lattanner, 2014), although specific evidence about online sexual solicitation and interaction does not exist to date.

In addition, some variables related to Internet use by minors may increase the likelihood of online sexual solicitation and interaction. Factors such as aggressive behavior (e.g., being rude or nasty with others), meeting people online, and talking with unknown people about sex have been related to various types of online victimization, including sexual victimization (Prentky et al., 2010; Ybarra, Mitchell, Finkelhor, & Wolak, 2007). In a study by Prentky et al. (2010) of high school students between ages 15 and 18, it was found that the adolescents who met adults online and then met them offline were more likely to report risky online behaviors. These risky online behaviors by minors consisted of visiting sexual Web sites, receiving inappropriate sexual pictures, and having someone talk to them about sex when they did not want to. Likewise, these factors have been associated with a greater probability of other online risk behaviors for sexual solicitation, such as sexting (i.e., sending sexual content through the Internet or by phone texts), relating to strangers through the Internet, time using Internet, using chat rooms, and adding strangers to social network friends lists (Mitchell, Finkelhor, & Wolak, 2007a, 2007b; Navarro & Yubero, 2012; Wolak et al., 2010). Moreover, the relationship between sexting and online sexual victimization is stronger when the sexual content is sent between an adult and a minor who have met only online, compared to sexting with a partner or with

friends or acquaintances (Gámez-Guadix et al., 2015). There is also a relationship between being a victim of online child sexual victimization and being a victim of other types of online victimization, such as cyberbullying (Montiel et al., 2015; Wachs et al., 2012).

Finally, some psychological characteristics of a minor could be associated with being a potential victim of sexual solicitations and interactions. In relation to other forms of online victimization, studies have found that minors exposed to online sexual exploitation are more likely to develop mood disorders, such as depression (Wells & Mitchell, 2007). The presence of depressive symptoms may be reciprocally related to being a victim of online sexual solicitation and interaction, as is the case with other types of online victimization, such as cyberbullying. For example, victimization from cyberbullying leads to an increase in depressive symptoms; depressive symptoms, in turn, increase the probability of cyberbullying (Gámez-Guadix, Orue, Smith, & Calvete, 2013). On the other hand, it has also been suggested that low self-esteem could be associated with becoming a victim of online sexual victimization (Miller, 2014; Wachs et al., 2012; Whittle, Hamilton-Giachritsis, Beech, & Collings, 2013b).

Empirical evidence on risk factors for sexual solicitation and interaction, however, is limited and fragmented (Kloess et al., 2014; Whittle et al., 2013a). Most studies have focused on sexual solicitation and paid little attention to sexual interactions with adults (Mitchell et al., 2014). Studying the risk factors for both sexual solicitations and interactions is of great importance because this knowledge will allow the design of prevention strategies that are more effective and specifically tailored to these problems.

The Present Study

Empirical research on online sexual solicitation and inter-actions is currently limited. To date, studies have included only a few questions about sexual solicitation within more general victimization surveys (e.g., Wachs et al., 2012; Ferreira, Martins, & Goncalves, 2011; Mitchell et al., 2014; Montiel et al., 2015). In addition, most studies do not separately evaluate sexual requests made to minors versus sexual interactions that end with sexual encounters between the children and adults (Mitchell et al., 2014). Moreover, in several studies that have yielded estimates of the prevalence of sexual solicitation, it is not initially dis-tinguishable if the solicitations have been perpetrated by adults or by other minors; the prevalence of perpetration is estimated to be about half by adults and half by children (Mitchell et al., 2014). Another major limitation of existing literature is that most online child sexual victimization stu-dies include minors up to 17 years old, and some even up to ages 18 or 19, although the age of consent is 16 in most countries (Bergen, 2014; Wolak et al., 2010). There has been no study of the prevalence of sexual solicitations and interactions that takes into account the age of consent of the youth, although the victim's age is the determining factor in

the assessment of the abuse process from both a conceptual and legal point of view (Craven, Brown, & Gilchrist, 2007). This can distort the apparent frequency with which minors are exploited by adults. In Europe, the age of consent has been adapted to international and community regulations, the majority of which specify age 16 (Directive 2011/93/UE). In the case of Spain, the age of sexual consent was increased during the last reform of the penal code in 2016, from 13 to 16 years old (Organic Law, 1/2015).

The first objective of this study, therefore, was to extend the previous literature by examining the prevalence of online sexual solicitation and interaction in a large sample of Spanish adolescents between 12 and 15 years old, ana-lyzing the differences in prevalence by sex and age of the children. In addition, to better understand the nature of sexual solicitations and interactions, we examined whether there were differences in adults' ages as a function of whether adults were first met online or offline (i.e., before interacting online). Based on previous research on sexual solicitation, we hypothesized that most of the adults would be young (e.g., under age 21) with no age differences based on whether they were first met online or offline (Wolak & Finkelhor, 2013).

Based on the foregoing review, the second objective of this study was to identify risk factors of minors related to sexual solicitation and sexual interaction, including three general categories: (a) demographic factors such as gender, age, sexual orientation, and family composition; (b) uses of the Internet, such as amount of time spent online, social networking, sexting, and talking to strangers online; and (c) psychological characteristics of children, including low self-esteem and depressive symptoms. In this sense, based on previous research, we expected that being female, being older, identifying with a nonheterosexual orientation, parti-cipating in sexting, being a victim of cyberbullying, spend-ing more time using the Internet and applications (e.g., online games or chat rooms), and including unknown peo-ple in friends lists would be related to a higher probability of sexual solicitation and sexual interactions with adults. In addition, we expected that depressive symptomatology and low levels of self-esteem in minors would relate to a higher probability of sexual solicitation and interactions. Finally, we analyzed which variables differentiated between adoles-cents who experienced only sexual solicitation and those who were victims of sexual interactions. Given the scarcity of previous empirical evidence on this particular issue, we proceeded in an exploratory manner.

METHOD

Participants

The study sample consisted of 2,731 adolescents between 12 and 15 years old (female: 50.6%; male: 48.3% male; not reported: 1.1%), with an average age of 14.02 years ($SD = 1.08$). Eleven schools in the community

of Madrid, Spain, were randomly selected, including seven public schools and four private schools. The period of data collection was from February to May 2016. The social networks most commonly used by teenagers were Instagram (64.4%), YouTube (63.5%), WhatsApp (32.3%), Snapchat (17.9%), Twitter (12.6%), and Facebook (10.2%). The parents of most of the adolescents were married or living together (68.9%), while 11.5% were separated, 6.6% were divorced, 1.4% were single parents, and 1.5% were widowed.

Measures

Sociodemographic questionnaire and Internet use.
We included questions about adolescents' age, gender, sexual orientation, and Internet use. We also asked how often during the past 12 months the adolescents had chatted online, including video chats (e.g., Chatroulette), social networking, and instant messaging by mobile phone or by computer. The response scale ranged from 0 (*Never*) to 4 (*Several times a day*). We also asked if there were strangers in the social network they used most often; this item had a dichotomous response format (i.e., *Yes* or *No*). Finally, we asked how much time per day the respondents spent on the Internet, excluding use for homework, during the work week and during the weekend. The response scale ranged from 0 (*Never*) to 5 (*More than four hours a day*).

Questionnaire of sexual solicitation and interactions with adults (Gámez-Guadix, de Santisteban, & Alcazar, 2017).
This instrument measures two dimensions of online child sexual victimization: sexual solicitation and sexual interaction. Minors were asked how often they experienced a particular sexual solicitation or interaction with a person aged 18 or older during the past year, using a 4-point Likert scale: 0 (*Never*), 1 (*Once or twice*), 2 (*3–5 times*), and 3 (*6 or more times*). The sexual solicitation scale was made up of five items (e.g., "An adult asked me for pictures or videos of myself containing sexual content"; "An adult has asked me to have cybersex [e.g., via a webcam]"). The sexual interaction scale was made up of five items (e.g., "I have sent an adult photos or videos with sexual content of me"; "We have met offline to have sexual contact"). This scale also includes one item (i.e., "I have met an adult I previously met on the Internet in person") intended to tap those offline meetings between the minor and an adult in which sexual content may not have been evident for the minor. The questionnaire also asks about the age of the adult and whether the adult was first met online or offline. This questionnaire has shown good psychometric properties (e.g., content, factorial, concurrent validity, and reliability) when used with a sample of Spanish adolescents (Gámez-Guadix, de Santisteban, & Alcazar, 2017). The internal consistencies were α = .87 and .69 for the sexual solicitation subscale and the sexual interaction subscale, respectively.

Sexting.
We used an adolescent-modified version of the Sexting Questionnaire (Gámez-Guadix et al., 2015)

made up of three items to assess how often teens had sent sexual content online in the past year. To differentiate sexting behaviors of sending photos and information as a result of harassment (e.g., after receiving threats), we asked teenagers to indicate how many times they had done the following things voluntarily: (a) "Send written information or text messages with sexual content about you"; (b) "Send pictures with sexual content (e.g., naked) about you"; and (c) "Send images (e.g., via webcam) or videos with sexual content about you." The response scale was: 0 = *Never*; 1 = *From one to three times*; 2 = *From four to 10 times*; 3 = *More than 10 times*. This questionnaire has shown good construct validity among adolescents (Gámez-Guadix, de Santisteban, & Resset, 2017). Internal consistency (Cronbach's alpha) in this sample was .69.

Cyberbullying Questionnaire (Estévez, Villardón, Calvete, Padilla, & Orue, 2010; Gámez-Guadix, Villa-George, & Calvete, 2014).
We used the victimization subscale of the Cyberbullying Questionnaire, which is a behavior-based scale with nine items regarding the frequency with which adolescents had ever experienced different behaviors of cyberbullying via the Internet or mobile phone, such as "someone sending me threatening or insulting messages." The response options to assess how often each experience had happened were as follows: 0 (*Never*), 1 (*One or two times*), 2 (*Three or four times*), and 3 (*Five or more times*). Internal consistency in this sample was .85.

Depression.
We used the depression subscale of the Brief Symptom Inventory (BSI; Derogatis & Fitzpatrick, 2004) to assess the presence of depressive symptoms. Participants were required to indicate how frequently they had experienced each symptom (e.g., "Feeling sad" or "Feeling no interest in things") during the past two weeks. The scale included six items with a response format that ranged from 1 (*Not at all*) to 4 (*Extremely*). The BSI has shown good psychometric properties in the Spanish population (Pereda, Forns, & Peró, 2007). Internal consistency in the present study was .86.

Rosenberg Self-Esteem Scale.
We used the Rosenberg Self-Esteem Scale to explore personal self-esteem (i.e., the feelings of personal worth and respect for oneself; Rosenberg, 1979). This scale was composed of 10 items scored on a 4-point Likert scale (1 = *Strongly disagree*, 2 = *Disagree*, 3 = *Agree*, 4 = *Strongly agree*). Lower scores reflect less self-esteem. The scale has been translated and validated in Spanish (Morejón, García-Bóveda, & Jiménez, 2004). Internal consistency in the present study was .86.

Procedure

The Autonomous University of Madrid's Ethics Committee reviewed and approved the study. Participants' responses were kept anonymous to promote honesty, and

participation was voluntary. Twenty adolescents refused to complete the questionnaire (participation rate = 99.38%). Parents were notified and given the option of not allowing their child to participate in the study; 85 parents (2.57%) declined. The adolescents completed the questionnaire in their classrooms with a study assistant present. Participants were encouraged to ask questions if they had trouble responding to any of the items. The questionnaire required approximately 30 to 40 minutes to complete. After completing the questionnaire, participants were given a sheet informing them of related resources in the community and the researchers' e-mail contacts.

RESULTS

Prevalence of Sexual Solicitation and Interactions Among Adolescents

Table 1 shows the total prevalence of each sexual solicitation analyzed. The percentages of online sexual solicitation ranged from 2.6% ("An adult has asked me to have cybersex [e.g., through a webcam]") to 7.5% ("An adult has

asked me questions with sexual content through the Internet or the mobile"). We found significant differences between genders in the total prevalence of sexual solicitation, with a prevalence of 9.3% in boys and 15.6% in girls, χ^2 (1, $N = 2,702$) = 24.53, $p < .001$. In relation to age, sexual solicitations increased as age increased, with 3.8% of children aged 12 years to 21.1% of those aged 15 years, χ^2 (3, $N = 2,731$) = 105.15, $p < .001$.

Table 2 shows the total prevalence of each sexual interaction behavior analyzed. The percentages of individual sexual interactions behaviors ranged from 1.1% ("I have sent an adult photos or videos about me with sexual content" and "We meet to have sexual contact") to 4.2% ("I have maintained a flirting relationship with an adult online"). The data showed that 7.4% and 8.2% of boys and girls, respectively, reported some type of sexual interaction. No differences were found between boys and girls in the total prevalence of sexual interactions, χ^2 (1, $N = 2,702$) = 2.10, n.s. As with sexual solicitation, however, there was a significant but gradual increase with age, from 2.0% of children aged 12 years to 15.4% of those aged 15 years, χ^2 (3, $N = 2,731$) = 102.39, $p < .001$.

We also analyzed the ages of the adults depending on whether adults first met online or offline (i.e., before

Table 1. *Prevalence and Differences in Gender and Age in Sexual Solicitations*

Item	Total	Male (*n* = 1,320)	Female (*n* = 1,382)	χ^2	12 (*n* = 503)	13 (*n* = 693)	14 (*n* = 735)	15 (*n* = 800)	χ^2
		Gender			**Age**				
An adult asked me for pictures or videos of myself containing sexual content	6.5%	2.8%	10.0%	57.50***	2.0%	3.9%	7.5%	10.6%	48.28***
An adult asked me questions about explicit sexual content through the Internet or a mobile device	7.5%	3.6%	11.1%	54.20***	1.4%	3.6%	9.4%	12.9%	79.57***
I have been asked to have cybersex with an adult (e.g., via a webcam)	2.6%	2.0%	3.0%	3.15	1.6%	1.0%	3.3%	3.9%	15.56**
An adult asked me to have sex over the Internet	4.0%	2.5%	5.4%	15.10***	1.0%	2.2%	4.4%	7.1%	38.58***
An adult sent me photos or videos of himself/herself containing sexual content	6.9%	5.2%	8.3%	10.18**	2.2%	3.0%	8.7%	11.5%	63.77***
Total	12.6%	9.3%	15.6%	24.53***	3.8%	7.6%	14.1%	21.1%	105.15***

*$p < .05$; **$p < .01$; ***$p < .001$.

Table 2. *Prevalence and Differences in Gender and Age in Sexual Interactions*

Item	Total	Male (*n* = 1,320)	Female (*n* = 1,382)	χ^2	12 (*n* = 503)	13 (*n* = 693)	14 (*n* = 735)	15 (*n* = 800)	χ^2
		Gender			**Age**				
I have sent an adult photos or videos with sexual content of me	1.1%	1.1%	1.0%	0.10	0.0%	0.6%	1.0%	2.4%	19.46***
I have maintained a flirtatious relationship with an adult online	4.2%	3.5%	4.8%	2.83	0.8%	2.3%	4.2%	7.9%	60.08***
I talked about sexual things with an adult on the Internet	3.8%	3.5%	4.1%	0.60	0.4%	1.6%	4.2%	7.5%	55.41***
I have met an adult I previously met on the Internet in person	3.6%	3.6%	3.5%	0.05	0.8%	1.3%	3.9%	7.0%	49.02***
We have met offline to have sexual contact	1.1%	1.4%	0.8%	2.55	0.0%	0.7%	1.4%	2.0%	12.50**
Total	7.9%	7.4%	8.2%	2.10	2.0%	3.8%	7.6%	15.4%	102.39***

*$p < .05$; **$p < .01$; ***$p < .001$.

interacting online). Most of the adults who met first online were between 18 and 20 years old (58.62%), with 27.7%, 8.62%, and 6.03% between 21 and 30, 31 and 40, and over 41 years old, respectively. Similarly, adults who met first offline were between 18 and 20 years old (62.04%), with 24.36% between 21 and 30 years old, 6.79% between 31 and 40 years old, and 6.79% over 41 years old. No differences were found in the adult ages as a function of whether they first met online or offline, χ^2 (3, N = 706) = 2.02, n.s.

Variables Associated With Sexual Solicitation and Interactions

Table 3 shows the bivariate correlations between variables in the study and sexual solicitations and sexual interactions. As the table indicates, most of the correlations were significant and occurred in the expected direction.

We estimated a logistic regression step model, including the following variables as predictors: In Step 1, we included the sociodemographic variables: sex, age, sexual orientation, family composition, and parental level of education. In Step 2, variables related to Internet use were included: amount of time spent online, use of social networks, use of instant messaging platforms over the Internet or through mobile phones, participation in online games, use of chat and video chat, having unknown people on a social networking friends list, involvement in sexting, or suffering cyberbullying. In Step 3, the psychological variables of depression and self-esteem were included. Sexual solicitation and interactions were dichotomized (0 = *Never*; 1 = *Have at some time been a victim*) and used as a criterion variable.

The results of the regression analyzing the relationship between risk factors and sexual solicitation are presented in Table 4. As the table shows, regarding the demographic variables studied, being female was related to sexual solicitation (OR = 1.92; p < .01); in addition, age was related to experiencing sexual solicitation (OR = 1.50; p < .001).

The results regarding Internet usage, as provided in Table 4, showed that involvement in sexting (OR = 2.74; p < 0.001) and suffering cyberbullying (OR = 5.55; p < 0.001) were related to sexual solicitation. In addition, using instant messaging platforms by computer (OR = 1.18; p < .01), using video chat (OR = 1.30; p < .01), using chat (OR = 1.11; p < .05), having unknown people on a social networking friends list (OR = 1.41; p < .05), and the amount of time spent on the Internet on weekdays (OR = 1.22; p < .05) were more common among children who were more likely to suffer sexual solicitation.

Regarding the variables of psychosocial adjustment, only depression was related to sexual solicitation (OR = 1.39; p < 0.01).

The results of the regression for sexual interactions are presented in Table 5. As in the previous case with sexual solicitation, the probability of minors being involved in sexual interactions increased as the age of the minors increased (OR = 1.68; p < 0.001).

Regarding variables related to Internet usage, involvement in sexting (OR = 1.88; p < 0.01) and suffering cyberbullying (OR = 3.20; p < 0.001) were related with having been involved in sexual interactions. Likewise, the amount of time spent on the Internet on weekdays (OR = 1.29; p < .05), participating in online games (OR = 1.24; p < .01), the use of chat (OR = 1.29; p < .001), and having unknown people on a social network friends list (OR = 1.65; p < .05) were more likely in children who had been involved in sexual interactions.

Finally, just as with sexual solicitation, depression was the only psychological adjustment variable related to being involved in sexual interactions (OR = 1.56; p < 0.01).

Differences Between Sexual Solicitation and Sexual Interaction

We analyzed the variables that differentiated adolescents who had been solicited (without sexual interaction) from those who had also interacted sexually with an adult. To accomplish this, adolescents who were only sexually solicited (n = 226) were compared with those who were also manipulated for sexual interaction, (n = 215) using a series of t and chi-square tests. Minors in the sexual solicitation group were more often girls (68.9% versus 53.8% of girls for the sexual solicitation and interactions groups, respectively; χ^2 = 10.51; p < 0.01) and younger (M = 14.10, SD = 0.95 for sexual solicitation; M = 14.36, SD = 0.87 for sexual interaction; t = 3.00, p < 0.01). In addition, the sexual interaction group was more likely than the sexual solicitation group to have played online games (M = 2.07, SD = 1.54 versus M = 1.53, SD = 1.476; t = −3.67, p < 0.001), to have used chat (M = 1.40, SD = 1.50 versus M = 1.05; SD = 1.39; t = -2.46, p < 0.01), and to have used the Internet to meet new people (M = 1.79, SD = 1.36 versus M = 1.34, SD = 1.31; t = −3.50; p < 0.01). No significant differences were found for the rest of the variables.

DISCUSSION

The results of the present study show that sexual contacts as a result of exploitation of minors by adults are a frequent and worrisome phenomenon. Specifically, up to 9.3% of boys and 15.6% of girls had received sexual solicitations, and 7.4% of boys and 8.2% of girls reported some type of sexual interaction with adults during the preceding 12 months. This is the first study to estimate the occurrence by sex and age of both sexual solicitation and sexual interactions between children and adults that takes into account the age of legal sexual consent of minors (i.e., 16 years old).

The prevalence of sexual solicitation is somewhat higher than that reported by previous studies, in which figures appeared around 5% and 9% (Bergen, 2014; Mitchell et al., 2014). There are several possible explanations for these results. First, the present study carried out a more comprehensive evaluation of sexual solicitation, including

Table 3. *Means, Standard Deviations, and Correlations Among Variables*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Gender																					
2. Age	.001																				
3. Sexual orientation	.04*	.10***																			
4. Family composition	.015	.04*	.06**																		
5. Education mother	-.04	-.08***	-.02	-.05**																	
6. Education father	-.06**	-.07**	-.02	-.04*	.55***																
7. Time I. weekday	.12***	.31***	.06**	.11***	-.07**	-.14***															
8. Time I. weekend	.06**	.25***	.04*	.08***	-.06**	-.05*	.63***														
9. Social networks	.19***	.28***	.03	.01	-.02	-.06**	.37***	.28***													
10. IMM	.15***	.19***	-.01	-.01	.02	.00	.27***	.24***	.39***												
11. IMC	-.05**	.19***	.04*	.02	-.02	-.00	.24***	.25***	.25***	.16***											
12. Online games	-.59***	.05**	-.01	-.03	.02	.04	-.08***	.16***	-.05*	.01	.26***										
13. Use of chats	-.01	.09***	.04*	.03	-.00	-.03	.18***	.17***	.18***	.09***	.27***	.13***									
14. Use video chats	-.02	.04	.05*	.02	-.02	-.02	.17***	.14***	.17***	.09***	.30***	.13***	.32***								
15. Unknown people	.02	.22***	.06**	.02	-.02	-.04	.30***	.28***	.33***	.19***	.18***	.08***	.17***	.12***							
16. Sexting	-.03	.19***	.11***	.06**	-.03	-.03	.16***	.10***	.12***	.08***	.14***	.05*	.14***	.13***	.14***						
17. Cyberbullying	.07***	.19***	.11***	.10***	-.03	-.08***	.26***	.19***	.22***	.16***	.14***	.03	.19***	.17***	.24***	.28***					
18. Depression	.21***	.23***	.12***	.12***	-.03	-.04	.24***	.21***	.19***	.08***	.09***	-.06**	.08***	.08***	.23***	.16***	.36***				
19. Self-esteem	-.21***	-.12***	-.03	-.10***	.06**	.07***	-.16***	-.13***	-.08***	.00	-.03	.07**	-.09***	-.05*	-.18***	-.09***	-.28***	-.66***			
20. Sexual solicitation	.11***	.17***	.02	.07***	-.05*	-.05*	.20***	.15***	.13***	.06**	.15***	.01	.15***	.18***	.07*	.29***	.46***	.21***	-.16***		
21. Sexual interaction	.01	.16***	.01	.03	-.06**	-.08***	.15***	.09***	.08***	.05*	.11***	.06**	.17***	.10***	.05	.27***	.37***	.16***	-.11***	.53***	
M	1.51	13.67	0.04	0.22	4.71	4.52	2.17	2.84	2.83	3.62	1.25	1.65	0.72	0.38	0.43	0.08	2.29	1.21	32.84	0.31	0.14
SD	0.50	1.08	0.19	0.41	2.39	1.53	1.16	1.15	1.44	0.84	1.24	1.50	1.21	0.79	0.50	0.50	3.04	0.98	6.11	0.99	0.57

Note. Gender: 0 = males, 1 = females. Sexual orientation: 0 = heterosexual, 1 = non-heterosexual. Family composition: 0 = living with both parents, 1 = single-parent family. IMM = Instant messaging by mobile; IMC = Instant messaging by computer.

*p < .05; **p < .01; ***p < .001.

Table 4. *Logistic Regression Analysis of the Relationship Between Sexual Solicitation and the Variables*

	B	SE	Wald	OR (95% CI)
Demographic variables				
Gender	0.65	0.21	9.74**	1.92 (1.27–2.90)
Age	0.41	0.08	22.74***	1.50 (1.27–1.78)
Sexual orientation	−0.01	0.04	0.06	0.99 (0.92–1.06)
Level education, mother	−1.06	0.06	3.27	0.90 (0.80–1.01)
Level education, father	0.07	0.06	1.43	1.07 (0.96–1.19)
Single-parent family	0.04	0.19	0.042	1.04 (0.72–1.45)
Internet use				
Internet time, week	0.20	0.08	5.28*	1.22 (1.03–1.45)
Internet time, weekend	−0.00	0.09	0.00	0.99 (0.83–1.19)
Social networking	−0.05	0.07	0.41	0.96 (0.83–1.10)
Instant messaging by mobile	−0.13	0.13	1.04	0.88 (0.69–1.13)
Instant messaging by computer	0.16	0.06	6.84**	1.18 (1.04–1.33)
Online games	0.06	0.07	0.71	1.06 (0.93–1.21)
Video chats	0.26	0.08	9.18**	1.30 (1.10–1.54)
Chats	0.11	0.06	3.29*	1.11 (0.99–1.25)
Unknown people in friends list	0.34	0.16	4.42*	1.41 (1.02–1.94)
Sexting	1.01	0.17	33.41***	2.74 (1.95–3.87)
Cyberbullying	1.71	0.29	34.57***	5.55 (3.13–9.81)
Psychological adjustment				
Depression	0.33	0.10	10.04**	1.39 (1.13–1.70)
Self-esteem	0.00	0.02	0.02	1.00 (0.97–1.03)
Constant	−11.32	1.46	60.49***	.000

Note. Gender: 0 = males, 1 = females. Sexual orientation: 0 = heterosexual, 1 = nonheterosexual. Family composition = 0 living with both parents, 1 = single parent family. R^2 = 0.16 (Cox & Snell) and 0.31 (Nagelkerke). Model χ^2 (9) = 89.2.
*p < .05; **p < .01; ***p < .001.

Table 5. *Logistic Regression Analysis of the Relationship Between Sexual Interactions and the Variables*

	B	SE	Wald	OR (95% CI)
Demographic variables				
Gender	0.43	0.26	2.89	1.54 (0.94–2.55)
Age	0.52	0.11	21.49***	1.68 (1.35–2.09)
Sexual orientation	−0.00	0.04	0.00	0.99 (0.93–1.07)
Single-parent family	−0.07	0.24	0.09	0.93 (0.59–1.48)
Level education, mother	−0.14	0.07	3.70	0.87 (0.76–1.00)
Level education, father	0.02	0.07	0.06	1.02 (0.89–1.19)
Internet use				
Internet time, week	0.25	0.11	5.44*	1.29 (1.04–1.59)
Internet time, weekend	−0.09	0.12	0.55	0.92 (0.73–1.15)
Social networking	−0.15	0.09	3.23	0.86 (0.72–0.01)
Instant messaging by mobile	−0.16	0.14	1.27	0.85 (0.64–1.13)
Instant messaging by computer	0.08	0.08	1.03	1.08 (0.93–1.26)
Online games	0.19	0.08	6.97**	1.24 (1.06–1.46)
Video chats	−0.41	0.11	0.14	0.96 (0.77–1.19)
Chats	0.26	0.07	13.86***	1.29 (1.13–1.48)
Unknown people in friends list	0.63	0.21	5.59*	1.65 (1.10–2.49)
Sexting	0.80	0.20	9.07**	1.88 (1.25–2.83)
Cyberbullying	1.16	0.32	12.87***	3.20 (1.69–6.03)
Psychological adjustment				
Depression	0.44	0.13	11.78**	1.56 (1.21–2.01)
Self-esteem	0.04	0.02	3.30	1.04 (0.99–1.08)
Constant	−13.40	1.87	51.28***	.000

Note. Gender: 0 = males, 1 = females. Sexual orientation: 0 = heterosexual, 1 = nonheterosexual. Family composition = 0 living with both parents, 1 = single parent family. R^2 = 0.11 (Cox & Snell) and 0.28 (Nagelkerke). Model χ^2 (9) = 93.4.
*p < .05; **p < .01; ***p < .001.

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a greater number of possible types of solicitation. Previous studies have evaluated only one or two types of sexual solicitation, which may have caused researchers to underestimate the prevalence of the problem. Second, the use of ICTs has increased in recent years among younger children (Holloway, Green, & Livingstone, 2013); this increase could have led to an increase in potential risks, including sexual solicitations. In any case, the data suggest that sexual solicitations increase with age, reaching 21% of 15-year-old participants. This increase is congruent with those found in previous studies (Mitchell et al., 2014; Wolak et al., 2010). Similarly, sexual interactions between an adult and a minor increased progressively with age, from 2% at 12 years old to slightly more than 15% at 15 years old. These results suggest a strong evolutionary pattern in both problems. Sexual curiosity and experimentation increases progressively with age throughout adolescence, which could be associated with different risk behaviors throughout adolescence, which, in turn, could explain this pattern (Wolak et al., 2010). This pattern is in line with the fact that the majority of studies with online offenders found that they had no diagnosis of pedophilia (Briggs et al., 2011; Seto, Wood, Babchishin, & Flynn, 2012). In addition, this is congruent with studies finding that online offenders do not usually solicit children but rather adolescents and even adults (Bergen et al., 2015; Schulz et al., 2016; Wolak et al., 2010).

We found significant differences between genders in the total prevalence of sexual solicitation, which was higher for girls; these results are congruent with what has been found in previous studies (Brå, 2007; Mitchell et al., 2014; Montiel et al., 2015). In contrast to our expectations, however, no differences were found between boys and girls in the total prevalence of sexual interactions (7.4% for males compared to 8.2% for females). It is possible that, due to traditional gender roles, girls tend to deny sexual interactions while boys recognize them. This could have affected the results. Future studies should explore the influence of gender roles, including measures of social desirability.

We also analyzed whether the age of the adults was different depending on whether they were first known online or offline. It is possible that those adults who are first known offline (e.g., an older boyfriend or girlfriend) are younger than those first known online, which may indicate different characteristics and dynamics at play. The results, however, indicated that there were no differences in ages for adults depending on whether they were first known online or offline. This result is in line with previous studies (Wolak & Finkelhor, 2013). In any case, it is important that future research examines the contexts in which adults known offline are first found (e.g., a family friend, a sibling of a peer).

Related to Internet usage, minors who had been involved in sexting or who had suffered cyberbullying showed a higher probability of experiencing sexual solicitations and sexual interactions. These results are congruent with our hypothesis and with the previous literature (Gámez-Guadix et al., 2015; Mitchell et al., 2007a, 2007b; Montiel et al., 2015; Wachs

et al., 2012). In previous studies, the relationship between sexting and online sexual victimization was stronger when the sexual content was sent to a person known online only, compared to when someone was sexting with a partner or with friends or acquaintances (Gámez-Guadix et al., 2015). However, it is important to note that the sexting variable might overlap to some extent with the variable of sexual interaction. Although we emphasized, when asking about sexting, that sexual content had been sent *voluntarily* (i.e., because adolescents wanted to), sometimes sending content to adults could be the result of subtle manipulation by the adult. Adolescents could perceive, therefore, sexting as voluntary even when it was the consequence of being groomed by the adult. Future longitudinal studies should explore the temporal relationship between sending voluntary sexual content and being involved in sexual solicitation and interaction. However, this fact should not obscure the finding that sexting that is perceived as voluntary could be related to undesirable outcomes, such as sexual requests from and interactions with adults. Regarding the relationship between being a victim of sexual solicitation and interactions and cyberbullying, our findings are consistent with previous studies on polyvictimization online (Montiel et al., 2015) and those findings that indicate that online sexual and nonsexual victimization are related (Wachs et al., 2012; Ybarra et al., 2007).

Regarding other uses of the Internet, the use of chat and having unknown people on a social network friends list appeared related to both sexual solicitation and sexual interaction, which is congruent with previous research (Mitchell et al., 2007a, 2007b; Wolak et al., 2010). Although it is known that chat rooms and social networks are used by adolescents as forums for social interaction because youth feel freer to openly develop notions of identity and sexuality (Subrahmanyam et al., 2004), these could be risky practices for the most vulnerable youth (e.g., those with a history of abuse or a minor looking for attention and affection; Mitchell et al., 2007b; Wolak et al., 2010).

Interestingly, children using video chat were more likely to experience sexual solicitation but not sexual interaction. Considering the active involvement of minors in sexual interactions as compared to sexual solicitation, it is possible that sexual interactions will be performed in later stages of the child sexual victimization process. Therefore, it is more likely that a sexual interaction would not take place between a minor and an unknown adult in a video chat. In contrast, once the adult has established a relationship of complicity with the minor, the adult and victim would begin to use other applications that are more commonly used in close relationships (e.g., social networks or mobile phones).

In addition, participating in online games was an activity by children who were more likely to become involved in sexual interactions. Online games can be another environment where online predators pursue multiple victims at the same time (O'Connell, 2003; Quayle et al., 2014). An online game maintained over time could serve as a medium of interaction by which the adult can gradually develop a relationship of closeness and complicity with the youth through the game. The adult could use

this interaction to introduce the child into the dynamics of the child sexual victimization.

The use of social networks was not related to any of the analyzed types of sexual victimization. Considering the widespread use of ICT among the population, and in particular among adolescents at younger ages (Subrahmanyam et al., 2004), more standardized and widespread online behaviors such as the use of social networks do not predict sexual solicitation and interactions when more specific risk factors are controlled (Wolak et al., 2010). On the other hand, the amount of time spent online on a weekday was related to both sexual solicitation and sexual interactions, while the time spent online on the weekends was not. One possible explanation for these results is that the increased use of the Internet during weekdays for different applications, excluding homework, could reflect a lower level of parental supervision, which in turn could be related to more risks, including online sexual solicitation and interactions. Future studies should explore this hypothesis.

In relation to the psychological variables, we expected that having depressive symptomatology and low levels of self-esteem would be related to higher probability of sexual solicitation and sexual interaction. Only depression had a statistically significant relationship with sexual solicitation and sexual interactions, a result which is congruent with previous research (Wells & Mitchell, 2007). It may be possible that having been a victim of sexual interactions and solicitations leads to a more depressive symptomatology. In turn, it is also possible that adolescents with depression are more vulnerable targets for motivated adults. This is consistent with the fact that adult offenders use strategies of emotional involvement (Wolak et al., 2010) and even study the vulnerabilities of potential victims as emotional deficiencies for the purpose of developing strategies adapted to their needs (de Santisteban & gámez-guadix, 2017; Quayle et al., 2014). Future research should address the possible reciprocal relationship between sexual solicitation and interactions and depressive symptomatology. Although self-esteem and sexual solicitations and interactions showed a bivariate relationship, it is possible that shared variance with depression caused this relationship to become nonsignificant.

Finally, we analyzed the differences between adolescents who had only been sexually solicited and those who had also sexually interacted with adults. The findings showed that the number of girls was higher in the group with only sexual solicitations, while age was greater in the sexual interactions group. We also found an increased use of chat rooms, online gaming, and the use of the Internet to meet new people in the sexual interactions group as compared to the sexual solicitation group. These results suggest that the minors who sexually interacted with adults showed a higher risk profile related mainly to the type of Internet activities in which they engaged.

LIMITATIONS OF THE STUDY

It is necessary to consider a series of limitations when interpreting these results. First, the data collected were based on collectively administered self-reports, which may increase biases related to social desirability. In addition, because it is a cross-sectional design we cannot establish causal relationships between variables. It would be interesting to carry out a longitudinal study to analyze whether the relationships between online sexual solicitation and interaction and risk factors are reciprocal. Furthermore, given the potential overlap between sexting perceived as a voluntary action and sexual interaction with adults, future studies should distinguish between sending sexual content to a peer or to an adult when asking about sexting. Although the sample size was large, the participants belonged to a specific region of Spain, so caution should be used in the generalization of the results. Future studies should replicate the research with additional samples. Moreover, one interesting finding of the study was the unexpected relationship between sexual interactions and online gaming. It would be interesting to study what type of games the respondents use, including factors such as the level of sexual content and violence of the games or the level of interaction that games require. Finally, to improve the understanding of the process of online child sexual victimization, future work should investigate the differentiation between sexual solicitation, online sexual interaction, nonsexual real-world meetings, and offline sexual abuse.

CONCLUSIONS

The results of this study indicate that online sexual solicitations and interactions are an important and frequent social problem. The differentiation between sexual solicitation and sexual interaction, as two different dimensions of online child sexual victimization, is useful to better understand the phenomenon. The findings indicate that both types of victimization are more prevalent across higher age groups. Nevertheless, the prevalence is worrisome among the youngest minors, which indicates that prevention efforts should begin early and continue during adolescence. The results indicate that sexual solicitation and sexual interactions tend to occur more often among girls; these findings would need to be considered when preparing materials for prevention programs. Adolescents should be educated in the responsible use of new technologies, including sending sexual content (i.e., sexting) or using chat with strangers. In addition, other types of victimization, such as cyberbullying, increased the likelihood of online sexual solicitation and sexual interactions with adults, which should be considered when creating wider awareness programs. Considering the population of minors affected, prevention and awareness policies should be directed to minors, parents, and educators. Finally, as to psychological intervention, attention should be paid to the depressive symptomatology among the victims of sexual contacts with adults. In summary, these findings reveal possible directions for continuing research on the characteristics, risk factors, and consequences of online sexual solicitation and abusive interactions.

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