

PROBLEMATIC INTERNET USE AND ONLINE RISK BEHAVIORS IN ADULTS FROM LATIN AMERICA

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Abstract

This study aimed to estimate the prevalence of problematic internet use (PIU) and risky online behaviors (sexting, sextortion, cybervictimization, and pornography consumption) based on gender, age, and living arrangements, as well as to analyze their relationship. A total of 4,975 participants (62.3% women), aged 18 to 64 years ($M= 32.23$, $SD= 12.92$), from the Dominican Republic (52.4%), Ecuador (21.9%), Mexico (14.1%), Peru (7%), Colombia (2.5%), and Argentina (2.1%) took part in the study. PIU was reported by 30.1% of participants, being more frequent among young people aged 18–30 and those living with family. Young people also engaged more in risky online behaviors, especially those living with friends. Among individuals over 30, both PIU and risky online behaviors were less prevalent. An association between PIU and risky online behaviors was confirmed, albeit with a small effect size. These findings highlight the presence of PIU and risky online behaviors among adults in Latin America, suggesting that prevention policies should address both issues comprehensively.

KEY WORDS: *problematic internet use, online risk practices, adults.*

Resumen

Este estudio tuvo como objetivos estimar la prevalencia del uso problemático de internet (UPI) y de prácticas de riesgo online (sexteo, sextorsión, cibervictimización y consumo de pornografía) según sexo, edad y convivencia, y analizar su relación. Participaron 4975 personas (62,3% mujeres) de 18 a 64 años ($M= 32,23$; $DT= 12,92$) provenientes de República Dominicana (52,4%), Ecuador (21,9%), México (14,1%), Perú (7%), Colombia (2,5%) y Argentina (2,1%). El 30,1% presentó UPI, siendo más frecuente en jóvenes de 18-30 años y quienes conviven con su familia. Los jóvenes también realizaron más prácticas de riesgo online, especialmente quienes conviven con amistades. En mayores de 30 años, ambas conductas fueron menos prevalentes. Se confirmó una asociación entre UPI y prácticas de riesgo online, aunque con un efecto pequeño. Estos resultados destacan la presencia de UPI y conductas de riesgo online en adultos en América Latina, sugiriendo que las políticas de prevención deben abordar ambas problemáticas de manera integrada.

PALABRAS CLAVE: *uso problemático de internet, prácticas de riesgo online, adultos.*

Introduction

According to the latest data from Internet World Stats (2023), more than 5 billion people worldwide and 534 million people in the Latin America and Caribbean region (9.9% globally) are Internet users. Additionally, data collected by the Economic Commission for Latin America and the Caribbean (2020) estimate that 66.7% of the inhabitants of Latin America and the Caribbean have Internet access.

Scientific and social interest in the Internet, its problematic use, and its role as a catalyst for various problematic and/or risky behaviors has increased (Fontana et al., 2022). Problematic Internet Use (PIU) is excessive or inappropriate use of the Internet that causes impairment in various areas of a person's life, including psychological, social, academic, and professional domains (Baloğlu et al., 2020; Gómez et al., 2014; Laconi et al., 2019). PIU has been associated with substance use, depression, anxiety, sleep disorders, interpersonal relationship problems, lack of social skills, academic failure, and obesity, among other issues in adolescents (Alimoradi et al., 2019; Baloğlu et al., 2020; Golpe et al., 2017; Lozano-Blasco & Cortés-Pascual, 2020). According to a meta-analysis that included 113 epidemiological studies from 31 different countries conducted between 1996 and 2018 (Pan et al., 2020), the global prevalence of PIU is 7%, with an observed increase over time among both adolescents and young adults.

While most studies have focused on the child and adolescent population, PIU is also a problem among adults (Villanueva-Blasco et al., 2022; Villanueva-Silvestre et al., 2022). Available studies on PIU in the adult population in the Latin American context primarily involve university students. Estimated rates range from 8% to 70%, with data limitations due to differences in context, country, methodology, and instruments used (Cañón Buitrago et al., 2016; Capetillo-Ventura & Juárez-Treviño, 2015; Ordoñez-Hoyos & Quiroz-Coral, 2020; Puerta-Cortés & Carbonell, 2014). However, Nogueira et al. (2023) highlight the risk of over-pathologization resulting from the instruments and criteria used for PIU assessment. In this regard, it is important to note that Internet use is not considered an addiction by the World Health Organization (WHO) or the American Psychiatric Association (APA), a point of controversy among clinicians and researchers (Kaess et al., 2021; Rumpf et al., 2019).

Regarding gender, several studies indicate no significant differences in PIU between men and women (Marzilli et al., 2020; Peña Cárdenas et al., 2018; Romero-Rodríguez et al., 2021; Yudes-Gómez et al., 2018), while other studies find higher PIU in men (Capetillo-Ventura & Juárez-Treviño, 2015; Vázquez-Chacón et al., 2019). As for country differences, a comparative study among Colombia, Uruguay, and Spain found no differences regarding PIU among the three countries (Yudes-Gómez et al., 2018).

Along with the increase in Internet use and online interaction, online risk behaviors such as sexting, sextortion, pornography consumption, and cyberbullying have emerged. Sexting is a form of sexual interaction through technology in which individuals exchange self-produced sexual content with others (Klettke et al., 2014),

including sending, receiving, and forwarding to third parties (Ojeda & Del Rey, 2021). Passive sexting behaviors (receiving and forwarding) are more frequent than active forms (sending and forwarding) (Ojeda et al., 2020). Some studies indicate a higher prevalence of sexting in men than in women (Garrido-Macías et al., 2021; Vázquez-Martínez et al., 2023). Regarding age, the few existing studies on adult populations indicate higher sexting rates in young adults compared to older ages (Garrido-Macías et al., 2021; Vázquez-Martínez et al., 2023). It has also been noted that those living with their partners reported lower frequencies of both active and passive sexting compared to single individuals and those not living with a partner (Garrido-Macías et al., 2021; Vázquez-Martínez et al., 2023).

If sexting is consensual and desired by both parties in the context of sexual experimentation (Villanueva-Blasco & Serrano-Bernal, 2019), it does not pose a problem. However, there is a risk of blackmail or unwanted public exposure and dissemination of images online without permission associated with these behaviors (Vázquez-Martínez et al., 2023). Sextortion occurs when a person is blackmailed after sending erotic/sexual content, being threatened with the distribution of said content unless the victim complies with the aggressor's demands (O'Malley, 2023). Studies on sextortion in adults are scarce. Vázquez-Martínez et al. (2023), in a study with a Spanish population, reported a rate of 0.6%, with no significant differences found based on gender or age.

Cyberbullying uses technology to intentionally and repeatedly threaten or harm a person. Similarly, studies on adults are not prolific. Existing studies place the prevalence of cybervictimization between 2.2% (Vázquez-Martínez et al., 2023) and 14.9% (Wang et al., 2019), with higher rates in women than in men (Wang et al., 2019).

Like the Internet, as an interaction tool, has facilitated behaviors related to sexuality and harassment in its online version, it has also led to an increase in online pornography consumption. Studies with adults indicate higher online pornography consumption among adult men than women (French & Hamilton, 2018; Rodríguez-Domínguez et al., 2021; Vázquez-Martínez et al., 2023), and more frequent among single individuals and less frequent among those living with a partner (Rodríguez-Domínguez et al., 2021; Vázquez-Martínez et al., 2023).

In Latin America, studies exploring these online risk behaviors are scarce. There are studies with adolescents exploring passive and active sexting, such as Yépez-Tito et al. (2020), with a sample of 613 adolescents aged 12-18 years from Quito, Ecuador. However, studies with adult populations are, to our knowledge, non-existent in Latin America. This trend has been observed in research overall, where most studies analyzing these behaviors have focused on adolescent populations, and those conducted with adults have had very small and heterogeneous samples (Romero-Saletti et al., 2021).

This exploratory and cross-sectional study, with a convenience sample from several Latin American countries, specifically the Dominican Republic, Ecuador, Mexico, Peru, Colombia, and Argentina, aims to analyze the prevalence of PIU and online risk behaviors, as well as the possible relationship between these variables.

The instrument selected to evaluate PIU is the “Problematic Internet Use Scale” (PIUS-a) by Rial et al. (2015), as it has adequate psychometric properties and has been used in previous studies (Villanueva-Silvestre et al., 2022) with adult populations in the same age ranges considered in the present study.

Therefore, the objectives of the present study were: a) to verify the reliability of the Problematic Internet Use Scale (PIUS-a) with a sample from various Latin American countries; b) to estimate the possible prevalence of PIU and online risk behaviors, analyzing the existence of possible differences based on various sociodemographic factors (gender, age, living situation); and c) to analyze the possible association between PIU and online risk behaviors, testing the hypothesis that individuals with PIU engage in more online risk behaviors.

Despite the limitations in its design and sample distribution, this study can offer interesting findings that guide future studies and the development of preventive interventions in Latin America.

Method

Participants

From the initial sample of 5717 participants, after removing cases due to missing values ($n= 462$), inconsistent response patterns ($n= 24$), or being outside the established age range ($n= 56$), a final sample of 4975 adults (37.7% men; 62.3% women) was obtained, with a mean age of 32.23 years ($SD= 12.92$), ranging from 18 to 64 years. Slightly more than half of the participants reside in the Dominican Republic (52.4%), followed by Ecuador (21.9%), Mexico (14.1%), Peru (7%), Colombia (2.5%), and Argentina (2.1%). Regarding living situation, most live with their family (79.5%), followed by living with a partner (13.7%), alone (5.5%), and with friends (1.4%).

The selection criteria were: a) residing in a Latin American country; b) being between 18 and 64 years old; c) explicit agreement to participate; and d) adequately responding to the battery of questionnaires.

Instruments

- a) *Ad hoc Sociodemographic Questionnaire*. Information was collected on gender (male/female), age (18-30; 31-49; 50-64 years), and living situation (alone, with a partner, with family, with friends).
- b) “Problematic Internet Use Scale” (EUPI-a; Rial et al., 2015). To assess Problematic Internet Use (PIU). It consists of 11 items that refer to the last 30 days, with Likert-type response values between 0 and 4 (0= “not at all agree”; 1= “more or less agree”; 2= “somewhat agree”; 3= “quite a bit agree”; 4= “totally agree”). The overall score is between 0 and 44, with 16 being the cut-off point to establish PIU. This screening tool has satisfactory psychometric properties, both in terms of score reliability ($\alpha= .82$), construct validity, and

sensitivity (81%) and specificity (82.6%). In the present study, Cronbach's $\alpha = .88$ and McDonald's Omega coefficient = $.87$.

- c) *Ad hoc scale to evaluate online risk behaviors.* A scale was developed that include active sexting, passive sexting, pressure to engage in sexting, sextortion, cybervictimization, and pornography consumption, composed of 8 items with a dichotomous response format (Yes/No). Active sexting was assessed with the question: "Have you sent erotic or sexual content photos or videos of yourself over the Internet or mobile to another person?" For passive sexting: "Have any of your contacts sent you photos or videos of themselves with erotic or sexual content?" For being pressured to engage in active sexting: "Has anyone pressured you to send them photos or videos of yourself with erotic or sexual content?" For sextortion: "Has anyone blackmailed you with publishing, distributing, or forwarding your erotic or sexual content photos or videos?" For being a victim of cyberbullying: "Have you felt threatened, harassed, or demeaned online?" And finally, for online pornography consumption: "Have you visited websites with erotic or pornographic content?". Los niveles de fiabilidad fueron de 0,79 (α de Cronbach) y 0,77 (ω de McDonald).

Procedure

This is an exploratory and cross-sectional study with a convenience sample. Data collection took place between April and May 2020. An online format was used via a battery of self-administered tests. Data were collected using a survey hosted on a website published on social media platforms, email messaging, and smartphones. Dissemination was carried out by sending invitations to collaborators, key informants, professionals, and acquaintances of the participating researchers from various Latin American countries. This procedure determined convenience sampling limited to the specified Latin American countries and the sample size obtained in each of these countries. Participants were informed that participation was voluntary, in accordance with Organic Law 3/2018 on Personal Data Protection and Digital Rights Guarantee (2018). Data collection was conducted following Spanish legislation for the processing of personal data, as this study is part of a broader research project that also included Spain, the country where the research was initiated. Participants were asked to provide their consent to participate.

The study was conducted in accordance with the Ethical Code of the World Medical Association (Declaration of Helsinki) and was approved by the Evaluation and Monitoring Committee for Research with Human Subjects (CEISH) of the International University of Valencia (protocol code CEID2020_02).

Data analysis

All analyses were conducted using the statistical package IBM SPSS Statistics v.25. First, to determine the reliability and internal consistency of the items in the EUPI-a instrument for the sample in this study, a reliability analysis based on

Cronbach's alpha coefficient was performed. Subsequently, a frequency analysis of the data was conducted. Contingency tables with χ^2 contrasts, Cramer's V, and contingency coefficient analyses were then performed to compare the percentages of each of the studied variables according to sex, age, and living situation. For the contingency analyses, a significance level of .05 was used.

Results

Table 1 presents the descriptive statistics for each item of the EUPI-a. The means range from 0.55 (item 8: "At some point, I have gotten into trouble because of the Internet") to 2.22 (item 1: "When I connect to the Internet, I feel that time flies and hours go by without me noticing"). Regarding the variability of responses, the item with the most heterogeneous responses or the highest standard deviation is item 3 ($SD= 1.28$). The corrected item-total correlation (CITC) values range from .38 to .65, and the internal consistency of the scale is very good, with a Cronbach's alpha coefficient of .88.

Table 1
Descriptive Statistics of the EUPI-a Scale

Item	<i>M</i>	<i>SD</i>	IHC
1. When I connect to the Internet, I feel time flies and hours pass without me realizing	2.22	1.19	0.38
2. Sometimes I have tried to control or reduce my Internet use but was unable to	1.5	1.27	0.53
3. I have sometimes neglected tasks or performed less well (in exams, sports, etc.) because of being connected to the Internet	1.31	1.28	0.63
4. I enjoy spending more and more hours connected to the Internet	1.45	1.19	0.63
5. Sometimes I get irritated or in a bad mood because I can't connect to the Internet or have to disconnect	1.07	1.22	0.65
6. I prefer my family, partner, and/or people I live with not to know the amount of time I spend connected to the Internet because they would find it excessive	0.92	1.22	0.61
7. I have stopped going to places or doing things that used to interest me in order to connect to the Internet	0.63	1.06	0.63
8. I have gotten into trouble or problems because of the Internet	0.55	0.99	0.56
9. It bothers me to spend hours without connecting to the Internet	0.88	1.12	0.65
10. When I can't connect to the Internet, I can't stop thinking if I'm missing something important	0.83	1.12	0.64
11. I say or do things on the Internet that I wouldn't be able to say/do in person	0.76	1.12	0.55

Note: Cronbach's alpha= .88.

Table 2 presents the percentages of Problematic Internet Use (PIU) based on gender, age group, living situation, and country of residence of the participants. The overall percentage of PIU is 30.1%, with no significant differences between women and men ($\chi^2= 0.06$, $p= .87$). Regarding age, no statistically significant differences

are observed among the different age groups: problematic use decreases with increasing age ($\chi^2= 187.75, p< .001$). Additionally, comparing young adults aged 18-30 with those over 31 years, significant differences are found in their EUPI-a scores, with higher scores in the younger group ($t(4426.98)= 15.59, p< .001$). Concerning the prevalence of PIU based on living situation, statistically significant differences were found ($\chi^2= 42.52, p< .001$), with those living with their families showing higher PIU rates.

Table 2
Problematic internet use in relation to sociodemographic factors

Sociodemographic variables	PIU (%)	χ^2	p	V Cramer	CC
Global	30.1				
Gender					
Male	30.2	0.03	.87	.003	
Female	30				
Age					
18-30 years	37.4	187.75	<.001		.19
31-49 years	24.9				
50-64 years	11.2				
Living situation					
Alone	29.4	42.52	<.001		.11
Partner	17.6				
Family	32.5				
Friends	28.6				

Note: PIU= Problematic internet use; CC= Contingency coefficient.

Table 3 presents the prevalence of different online risk behaviors by gender and age. Men show a higher prevalence of active sexting ($\chi^2= 12.01, p< .001$), passive sexting ($\chi^2= 33.66, p< .001$), and pornography consumption ($\chi^2= 230.86, p< .001$). Women are more likely to experience pressure and blackmail to send erotic or sexual content ($\chi^2= 15.65, p< .001$). There are no differences between men and women regarding sextortion and cyber-victimization. Regarding different age groups, younger individuals exhibit higher prevalences of active sexting ($\chi^2= 156.23, p< .001$), passive sexting ($\chi^2= 142.09, p< .001$), experiencing pressure and blackmail ($\chi^2= 23.05, p< .001$), being victims of harassment ($\chi^2= 12.21, p< .001$), and pornography consumption ($\chi^2= 203.81, p< .001$). There are no differences among age groups concerning sextortion.

Table 4 shows the prevalence of online risk behaviors by living situation and age. Generally, those living with friends engage more in active sexting ($\chi^2= 34.16, p< .001$) and passive sexting ($\chi^2= 38.95, p< .001$). Individuals living alone are more likely to experience online harassment ($\chi^2= 8.18, p< .05$). Finally, those living with their families consume pornography more frequently ($\chi^2= 31.35, p< .001$). Focusing on age groups and living situations, young adults aged 18-30 living with friends engage more in active sexting ($\chi^2= 25.98, p< .001$). Young adults living with their families engage more in passive sexting ($\chi^2= 29.96, p< .001$) and consume more

Table 3
Online risk practices during confinement by gender and age

Risk practices	Global (%)	Gender (%)		χ^2 (V Cramer)	Age (%)			χ^2 (CC)
		Male	Female		18-30	31-49	50-70	
Active sexting	11.8	13.8	10.5	12.01** (.05)	16.7	6.5	2.9	156.23** (.17)
Passive sexting	16.3	20.2	13.9	33.66** (.08)	21.6	11.1	5.8	142.09** (.17)
Pressure for sexting	3.6	2.3	4.5	15.65** (.06)	4.6	2.9	1.1	23.05** (.07)
Sextortion	0.7	0.9	0.6	1.76 (.02)	0.6	0.9	0.8	0.89 (.01)
Victims of online harassment	3.9	3.3	4.2	2.703 (.02)	4.4	3.9	1.5	12.21** (.05)
Online pornography consumption	22.6	34.2	15.6	230.86** (.22)	29.9	15.1	8.9	203.81** (.19)

Notes: CC= Contingency coefficient. **p<.01.

pornography ($\chi^2= 24.78, p< .001$). Conversely, individuals aged 31-49 living alone are more likely to experience online harassment ($\chi^2= 8.25, p< .05$) and consume pornographic content ($\chi^2= 9.63, p< .05$).

Table 4
Online risk practices during confinement by age group and living situation

Risk Practices	Age group	Living situation (%)				χ^2	CC
		Alone	Partner	Family	Friends		
Active Sexting	Global	8.3	5.3	14	15.4	34.16**	.1
	18-30	10.8	5	19.3	22.2	25.98**	.11
	31-49	10.4	7.2	6.9	8.7	1.35	.04
	50-64	0.0	3.3	2.8	0.0	1.51	.05
Passive sexting	Global	12.2	8.4	19	21.2	38.95**	.10
	18-30	15.7	7.8	24.9	18.5	29.96**	.12
	31-49	15.6	11.1	11.6	26.1	5.49	.07
	50-64	0.0	5.9	5.6	0.0	2.85	.07
Pressure for sexting	Global	2.4	2.7	3.8	5.8	2.85	.03
	18-30	3.6	3.9	4.7	11.1	2.99	.04
	31-49	2.6	3.3	2.9	0.0	0.83	.03
	50-64	0.0	0.7	0.9	0.0	0.51	.03
Sextortion	Global	1.5	0.8	0.6	0.0	2.32	.03
	18-30	1.2	0.6	0.6	0.0	0.65	.02
	31-49	2.6	0.6	0.8	0.0	3.05	.05
	50-64	0.0	1.3	0.3	0.0	2.08	.06
Victims of online harassment	Global	7.8	3.1	4.2	5.8	8.18*	.05
	18-30	8.4	4.4	4.8	3.7	2.41	.03
	31-49	10.4	3.9	3.9	8.7	8.25*	.09
	50-64	2.2	0.7	1.9	0.0	1.21	.05
Online pornography consumption	Global	23.9	14.6	25.9	19.2	31.35**	.09
	18-30	28.9	16.1	33.9	25.9	24.78**	.11
	31-49	28.6	14.4	15.5	13	9.63*	.09
	50-64	6.7	13.1	8.8	0.0	2.94	.08

Notes: CC= Contingency coefficient. ** $p< .01$; * $p< .05$.

Table 5 presents the relationships between PIU and online risk behaviors. All online risk behaviors were more frequent among individuals with PIU. Active sexting ($\chi^2= 62.09, p< .001$), passive sexting ($\chi^2= 62.74, p< .001$), experiencing online pressure and blackmail ($\chi^2= 53.98, p< .001$), sextortion ($\chi^2= 17.94, p< .001$), experiencing online harassment ($\chi^2= 44.96, p< .001$), and pornography consumption ($\chi^2= 85.88, p< .001$) are statistically significantly related to PIU.

Table 5
Relationship between the problematic internet use and online risk practices

Risk practices	No PIU (%)	PIU (%)	χ^2	V Cramer
Active Sexting	10.2	18.6	62.09**	.12
Passive sexting	14.7	24.4	62.74**	.12
Pressure for sexting	2.6	7.1	53.98**	.11
Sextortion	0.4	1.6	17.94**	.06
Victims of online harassment	2.9	7.2	44.96**	.10
Online pornography consumption	20.6	33.4	85.88**	.14

Notes: PIU= problematic internet use. ** $p < .01$.

Discussion

After presenting the results, the author is in a position to evaluate and interpret their implications, especially with respect to the original hypothesis. The author is free to analyze, interpret and qualify the results, as well as to draw inferences from them. The theoretical implications of the results and the validity of the conclusions can be emphasized.

There are few studies with adult populations in Latin America that have analyzed Problematic Internet Use (PIU) and online risk behaviors, addressing their possible association. This study is novel in this regard. Despite limitations related to the representativeness of the sample and its cross-sectional design, it provides interesting findings that highlight the need to expand research in this area and promote public policies aimed at early detection and addressing these issues.

Regarding the first objective of the present study, to verify the reliability of the Problematic Internet Use Scale (EUPI-a) (Rial et al., 2015) with a sample from various Latin American countries, it is confirmed that the EUPI-a has good psychometric properties in the adult population of Latin America (internal consistency $\alpha = 0.88$). This suggests the advisability of conducting a cultural adaptation, if necessary, and validation studies with representative samples from each country.

Concerning the prevalence data of PIU, a prevalence of 30% was found in the sample of this study. This percentage approaches 40% in the youngest group (18-30 years). The data found are similar to previous studies, but this comparison has limitations due to the different ways in which Internet use behavior is collected and the different contexts where the studies have been conducted (Cañón Buitrago et al., 2016; Capetillo-Ventura and Juárez-Treviño, 2015; Ordoñez-Hoyos and Quiroz-Coral, 2020; Puerta-Cortés and Carbonell, 2014). Additionally, various authors warn of the danger of over-pathologizing such behaviors (Billieux et al., 2015; Stein et al., 2018). Nogueira-López et al. (2023) point out the variability in prevalence rates depending on whether scales based on DSM-5 substance use criteria or ICD-11 are used, with the latter being more realistic and reliable. Moretta et al. (2022) indicate that the conceptualization and measurement of PIU remains one of the major challenges for the future. Similarly, it is important to have large and representative samples from each country. In this study, one of the limitations mentioned is the

sample imbalance between participating countries and that it is a convenience sample, and therefore not representative. Thus, the prevalences found for each country and the significant differences found between them should be considered exploratory, not conclusive. In this regard, having data from Latin America, from this and future studies, can contribute to ensuring that both the conceptualization and measurement of PIU take into account the cultural aspects specific to each population.

Regarding the relationship between PIU and the sociodemographic factors considered (gender, age, and living situation), it was found that the prevalence of PIU is similar between men and women, consistent with previous studies (Peña Cárdenas et al., 2018; Yudes-Gómez et al., 2018). However, this does not imply that Internet use behaviors are the same for both sexes. Different uses can expose individuals to different risks. In terms of age groups, younger individuals exhibit a higher prevalence of PIU compared to other age groups. Nevertheless, PIU persists even in those over 30 years old: 1 in 4 (24.9%) individuals aged 31-49 exhibit PIU, as well as 11.2% of those aged 50-70. These results indicate that it is important to consider PIU as a global phenomenon affecting all ages, not just adolescents.

Regarding the relationship between PIU and living situation, individuals living with their families exhibit a higher prevalence of PIU. This can be explained by considering the processes of emancipation from the family home, as younger individuals tend to leave the family home later and also exhibit a higher prevalence of PIU. In any case, it is important for future studies to analyze family risk factors that maintain or promote PIU. It is crucial to determine which aspects to incorporate in the design of family prevention interventions, as the family is fundamental in educating for healthy technology use (Lukavská et al., 2022). Parents act as regulators and supervisors of screen use (Gentile et al., 2017), shaping self-regulation behaviors (Altamimi et al., 2015).

Regarding sexting, the results show that rates of passive sexting are higher than those of active sexting and, consistent with previous studies (e.g., Garrido-Macías et al., 2021; Vázquez-Martínez et al., 2023), both are higher in men than in women and more prevalent in young adults compared to older age groups. Additionally, the present study found that both forms of sexting are particularly common among young adults aged 18-30 who live with friends or family. These same demographic groups, along with those in the same age range who live alone, also engage in higher rates of online pornography consumption. While accessing pornographic content and engaging in sexting are legal practices for adults, both can have serious mental health implications and may increase exposure to other risks (Vázquez-Martínez et al., 2023). Moreover, pornography consumption could influence sexual roles and promote gender inequalities (Ramírez-Rubio et al., 2022), which is especially relevant in shaping affective-sexual relationships in young adults.

Pressures to engage in sexting are predominantly observed in women and in the youngest age group (18-30 years) living with friends. On the other hand, no significant differences were found for sextortion based on gender, age, or living situation, likely due to the low prevalence of this online risk behavior, which affects

statistical power. Nonetheless, 0.7% of a sample of 4975 participants represents 35 individuals who are victims of sextortion. This fact should prompt reflection on consent and respect towards individuals with whom intimate sexual content is shared (Vázquez-Martínez et al., 2023), and the development of interventions that provide strategies to cope with pressure to engage in sexting and the non-consensual exchange of intimate material (Albury et al., 2017).

The prevalence of cybervictimization is 4 out of every 100 people, with no differences based on gender but with significant differences based on age, affecting younger individuals (18-30 years) more. However, when considering the intersection of age and living situation, it was observed that the prevalence was significantly higher among individuals aged 31-49 who lived alone or with friends. Vázquez-Martínez et al. (2023) also found a higher rate of cybervictimization among those aged 31-49 who lived with friends. Consequently, this population group appears to be particularly vulnerable, with cross-cultural support from studies conducted in Latin America and Spain. This finding suggests the need to analyze the specific risk factors for cybervictimization in this demographic group.

Finally, this study confirms the hypothesis that individuals with PIU engage in more online risk behaviors. This hypothesis has been confirmed for all the online risk behaviors analyzed, although the effect sizes are small in all cases, and negligible for sextortion. Therefore, while there is evidence of an association between PIU and online risk behaviors, this relationship requires further investigation, considering possible common factors observed in both PIU and online risk behaviors.

The data obtained must be analyzed with caution, as this study is not without limitations. On one hand, the limitations inherent in a cross-sectional study were identified, including the inability to establish cause-effect relationships. On the other hand, the use of a non-random sample does not allow for the generalization of the results to the entire Latin American region. Despite these limitations, the present study provides a current approach to the state of Problematic Internet Use (PIU) and online risk practices in Latin America. Additionally, it is rare to find research that combines the simultaneous exploration of online practices such as sexting and cybervictimization, and PIU; or that employs tools with good psychometric properties, thus, this research allows for a more comprehensive understanding of PIU and the role played by sociodemographic factors in the adult population.

As conclusions, it can be highlighted that both Problematic Internet Use (PIU) and online risk practices are not exclusive to the adolescent population, but also have a significant presence in the adult population, as confirmed in a cross-cultural manner. Although accessing pornographic content and engaging in sexting are legal practices for adults, both can have serious implications for mental health and may increase exposure to other risks (Vázquez-Martínez et al., 2023). Additionally, sextortion and cyberbullying are crimes with serious social and mental health repercussions for victims (Vázquez-Martínez et al., 2023). The association between PIU and online risk practices has also been confirmed, albeit with a small effect size. Taking all this into consideration, it is necessary to implement preventive programs for PIU and online risk practices, targeting both adults and adolescents, and policies

that address gender equality and Internet risks associated with affective-sexual behaviors.

References

- Albury, K., Hasinoff, A. A., & Senft, T. (2017). From media abstinence to media production: Sexting, young people and education. *The Palgrave Handbook of Sexuality Education, 13*, 527-545. doi: 10.1057/978-1-137-40033-8_26
- Alimoradi, Z., Lin, C. Y., Broström, A., Bülow, P. H., Bajalan, Z., Griffiths, M. D., Ohayon, M., & Pakpour, A. H. (2019). Internet addiction and sleep problems: A systematic review and meta-analysis. *Sleep Medicine Reviews, 47*, 51-61. doi: 10.1016/j.smr.2019.06.004
- Altamimi, R. I., Skinner, G. D., & Nesbitt, K. V. (2015). A position paper on managing youth screen time versus physical activity. *GSTF Journal on computing (JoC), 4*, 1-7.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). American Psychiatric Association.
- Baloğlu, M., Şahin, R., y Arpacı, I. (2020). A review of recent research in problematic internet use: Gender and cultural differences. *Current Opinion in Psychology, 36*, 124-129. doi: 10.1016/j.copsyc.2020.05.008
- Billieux, J., Schimmenti, A., Khazaal, Y., Maurage, P., Heeren, A. (2015). Are we overpathologizing everyday life? A tenable blueprint for behavioral addiction research. *Journal of Behavioral Addictions, 4*(3), 119-23. doi: 10.1556/2006.4.2015.009
- Cañón Buitrago, S. C., Castaño Castriñón, J. J., Hoyos Monroy, D. C., Jaramillo Hernández, J. C., Leal Rios, D. R., Rincón Viveros, R., Sánchez Preciado, E. A., Ureña Calderón, L. E. (2016). Uso de internet y su relación con la salud de estudiantes universitarios de la ciudad de Manizales (Caldas, Colombia) [Internet use and its relationship with the health of university students in the city of Manizales (Caldas, Colombia)]. *Archivos de Medicina, 16*, 312-325.
- Capetillo-Ventura, N., & Juárez-Treviño, M. (2015). Internet addiction in university medical students. *Medicina Universitaria, 17*(67), 88-93. doi: 10.1016/j.rmu.2015.02.003
- Comisión Económica para la América Latina y el Caribe. (2020). *Informe especial COVID-19. Universalizar el acceso a las tecnologías digitales para enfrentar los efectos* [Special report on COVID-19: Universalizing access to digital technologies to address the effects]. <https://www.cepal.org/es/publicaciones/45938-universalizar-acceso-tecnologias-digitales-enfrentar-efectos-covid-19>.
- Fontana, A., Benzi, I. M. A. y Cipresso, P. (2022). Problematic internet use as a moderator between personality dimensions and internalizing and externalizing symptoms in adolescence. *Current Psychology, 1-10*. Advance online publication. doi: 10.1007/s12144-021-02409-9
- French, I. M., & Hamilton, L. D. (2018). Male-centric and female-centric pornography consumption: Relationship with sex life and attitudes in young adults. *Journal of Sex & Marital Therapy, 44*(1), 73-86. doi: 10.1080/0092623X.2017.1321596
- Garrido-Macías, M., Villanueva-Moya, L., Alonso-Ferres, M., Sánchez-Hernández, M. D., Badenes-Sastre, M., Beltrán-Morillas, A. M., Herrera, A., Expósito, F., & Herrera, M. C.

- (2021). Sexting during confinement in Spain: Prevalence, motivations and predictor variables. *Studies in Psychology*, *42*(3), 517-544. doi: 10.1080/02109395.2021.1950460
- Gentile, D. A., Reimer, R. A., Nathanson, A. I., Walsh, D. A., & Eisenmann, J. C. (2017). Protective effects of parental monitoring of children's media use: A prospective study. *JAMA Pediatrics*, *171*(3), 259-260.
- Golpe, S., Gómez, P. Harris, S. K., Braña, T., & Rial, A. (2017). Diferencias de sexo en el uso de Internet en adolescentes españoles [Gender differences in the use of the Internet in Spanish adolescents]. *Behavioral Psychology/Psicología Conductual*, *25*(1), 129-146.
- Gómez, P., Rial, A., Braña, T., Varela, J., & Barreiro, C. (2014). Evaluation and early detection of problematic Internet use in adolescents. *Psicothema*, *26*(1), 21-26. doi: 10.7334/psicothema2013.109
- Internet World Stats. (2023). *Internet usage statistics. World internet users and 2023 Population stats*. Retrieved from: <https://www.internetworldstats.com/stats.htm>
- Kaess, M., Klar, J., Kindler, J., Parzer, P., Brunner, R., Carli, V., Sarchiapone, M., Hoven, C. W., Apter, A., Balazs, J., Barzilay, S., Bobes, J., Cozman, D., Gomboc, V., Haring, C., Kahn, J., Keeley, H., Meszaros, G., Musa, G. J... Wasserman, D. (2021). Excessive and pathological Internet use-risk-behavior or psychopathology? *Addictive behaviors*, *123*, 107045. doi: 10.1016/j.addbeh.2021.107045
- Klettke, B., Hallford, D. J., & Mellor, D. J. (2014). Sexting prevalence and correlates: A systematic literature review. *Clinical Psychology Review*, *34*(1), 44-53. doi: 10.1016/j.cpr.2013.10.007
- Laconi, S., Urbán, R., Kaliszewska-Czeremska, K., Kuss, D. J., Gnisci, A., Sergi, I., Barke, A., Jeromin, F., Groth, J., Gamez-Guadiz, M., Ozcan, N. K., Siomos, K., Floros, G. D., Griffiths, M. D., Demetrovics, Z., & Király, O. (2019). Psychometric evaluation of the nine-item Problematic Internet Use Questionnaire (PIUQ-9) in nine European samples of internet users. *Frontiers in Psychiatry*, *10*, 136. doi: 10.3389/fpsy.2019.00136
- Lozano-Blasco, R., & Cortés-Pascual, A. (2020). Problematic Internet uses and depression in adolescents: A meta-analysis. *Comunicar*, *28*(63), 103-113. doi: 10.3916/C63-2020-10
- Lukavská, K., Hrabec, O., Lukavský, J., Demetrovics, Z., & Király, O. (2022). The associations of adolescent problematic internet use with parenting: A meta-analysis. *Addictive Behaviors*, *135*, 107423.
- Marzilli, E., Cerniglia, L., Ballarotto, G., & Cimino, S. (2020). Internet addiction among young adult university students: The complex interplay between family functioning, impulsivity, depression, and anxiety. *International Journal of Environmental Research and Public Health*, *17*(21), 1-15. doi: 10.3390/ijerph17218231
- Moretta, T., Buodo, G., Demetrovics, Z., & Potenza, M.N. (2022). Tracing 20 years of research on problematic use of the internet and social media: Theoretical models, assessment tools, and an agenda for future work. *Comprehensive Psychiatry*, *112*(152286):152286. doi: 10.1016/j.comppsy.2021.152286
- Nogueira-López, A., Rial-Boubeta, A., Guadix-García, I., Villanueva-Blasco, V. J., & Billieux, J. (2023). Prevalence of problematic Internet use and problematic gaming in Spanish adolescents. *Psychiatry Research*, *326*(115317):115317. doi: 10.1016/j.psychres.2023.115317

- Ojeda, M., & Del Rey, R. (2021). Lines of action for sexting prevention and intervention: A systematic review. *Archivos de Comportamiento Sexual, 51*, 1659-1687. doi: 10.1007/s10508-021-02089-3
- Ojeda, M., Del-Rey, R., Walrave, M., & Vandebosch, H. (2020). Sexting en adolescentes: Prevalencia y conductas [Sexting in adolescents: Prevalence and behaviors]. *Comunicar, 28*(64), 9-19. doi: 10.3916/C64-2020-01
- O'Malley, R. L. (2023). Short-Term and long-term impacts of financial sextortion on victim's mental well-being. *Journal of Interpersonal Violence, 38*(13-14), 8563-8592. doi: 10.1177/08862605231156416
- Ordoñez-Hoyos, D. C., & Quiroz-Coral, S. Y. (2020). Grado de uso de internet en estudiantes de Ingeniería de Sistemas [Degree of Internet use among systems engineering students]. *Revista UNIMAR, 38*(1), 173-186.
- Pan, Y. C., Chiu, Y. C., & Lin, Y. H. (2020). Systematic review and meta-analysis of epidemiology of internet addiction. *Neuroscience and Biobehavioral Reviews, 118*, 612-622. doi: 10.1016/j.neubiorev.2020.08.013
- Peña Cárdenas, F., Rojas-Solís, J. L., & García Sánchez, P. V. (2018). Uso problemático de internet, cyberbullying y ciber-violencia de pareja en jóvenes universitarios [Problematic Internet use, cyberbullying, and cyber intimate partner violence among university students]. *Diversitas - Perspectivas En Psicología, 14*(2), 205-219. doi: 10.15332/s1794-9998.2018.0014.01
- Puerta-Cortés, D. X., & Carbonell, X. (2014). El modelo de los cinco grandes factores de personalidad y el uso problemático de Internet en jóvenes colombianos [The five-factor model of personality and problematic internet use in Colombian youth]. *Adicciones, 26*(1), 54. doi: 10.20882/adicciones.131
- Ramírez-Rubio, A., Villanueva-Moya, L., Sánchez-Hernández, M. D., Herrera, M. C., & Expósito, F. (2022). Social perceptions of women in pornography: Attitudes and gender stereotypes. *Psicología Sociale, 17*(2), 277-307. doi: 10.1482/104813
- Rial Boubeta, A., Gómez Salgado, P., Isorna Folgar, M., Araujo Gallego, M., & Varela Mallou, J. (2015). EUPI-a: Escala de Uso Problemático de Internet en Adolescentes. Desarrollo y validación psicométrica [EUPI-a: Problematic Internet Use Scale for Adolescents. Development and psychometric validation]. *Adicciones, 27*(1), 47-63.
- Rodríguez-Domínguez, C., Lafuente-Bacedoni, C., & Segura, M. M. D. (2021). Predictors of sexual satisfaction during confinement by Covid-19 in Spain. *Behavioral Psychology-Psicología Conductual, 29*(3), 627-646. doi: 10.51668/bp.8321307s
- Romero-Rodríguez, J.-M., Martínez-Heredia, N., Campos Soto, M. N., & Ramos Navas-Parejo, M. (2021). Influencia de la adicción a internet en el bienestar personal de los estudiantes universitarios [Influence of Internet addiction on the personal well-being of university students]. *Salud y Drogas, 21*(1), 171-185. doi: 10.21134/haaj.v21i1.559
- Romero-Saletti, S. M., Van den Broucke, S., & Chau, C. (2021). The effectiveness of prevention programs for problematic internet use in adolescents and youths: A systematic review and meta-analysis. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace, 15*(2), doi: 10.5817/CP2021-2-10.
- Rumpf, H. J., Brandt, D., Demetrovics, Z., Billieux, J., Carragher, N., Brand, M., Bowden-Jones, H., Rahimi-Movaghar, A., Assanangkornchai, S., Glavak-Tkalic, R., Borges, G., Lee, H.,

- Rehbein, F., Fineberg, N., Mann, K., Potenza, M. N., Stein, D. J., Higuchi, S., King, D. Saunders, J. B., & Poznyak, V. (2019). Epidemiological challenges in the study of behavioral addictions: a call for high standard methodologies. *Current Addiction Reports*, 6, 331-337. doi: 10.1007/s40429-019-00262-2
- Stein, D. J., Billieux, J., Bowden-Jones, H., Grant, J. E., Fineberg, N., Higuchi, S., Hao, W., Mann, K., Matsunaga, H., Potenza, M. N., Rumpf, H. M., Veale, D., Ray, R., Saunders, J. B., Reed, G. M., & Poznyak, V. (2018). Balancing validity, utility and public health considerations in disorders due to addictive behaviours. *World Psychiatry*, 17(3), 363-4. doi: 10.1002/wps.20570
- Vázquez-Chacón, M., Cabrejos-Llontop, S., Yrigoin-Pérez, Y., Robles-Alfaro, R., & Toro-Huamanchumo, C. J. (2019). Adicción a internet y calidad de sueño en estudiantes de medicina de una universidad peruana, 2016 [Internet addiction and sleep quality in medical students from a peruvian university, 2016]. *Revista Habanera de Ciencias Médicas*, 18(5), 817-830.
- Vázquez-Martínez, A., Iranzo Ejarque, B., Villanueva Silvestre, V., Gómez Martínez, S., Isorna Folgar, M., & Villanueva-Blasco, V. J. (2023). Online risk practices in Spanish adults during the COVID-19 lockdown: Differences according to gender, age and living situation. *Sexuality Research and Social Policy*, 20, 1599-1609. doi.org/10.1007/s13178-023-00857-5
- Villanueva-Blasco, V. J., & Serrano-Bernal, S. (2019). Patrón de uso de internet y control parental de redes sociales como predictor de sexting en adolescentes: Una perspectiva de género [Internet use pattern and parental control of social networks as a predictor of sexting in adolescents: A gender perspective]. *Journal of Psychology and Education*, 14(1), 16-26. doi: 10.23923/rpye2019.01.168
- Villanueva-Silvestre, V., Vázquez-Martínez, A., Isorna-Folgar, M., & Villanueva-Blasco, V. J. (2022). Problematic internet use, depressive symptomatology and suicidal ideation in university students during Covid-19 confinement. *Psicothema*, 34(4), 518-527.
- Wang, M. J., Yogeewaran, K., Andrews, N. P., Hawi, D. R., & Sibley, C. G. (2019). How common is cyberbullying among adults? exploring gender, ethnic, and age differences in the prevalence of cyberbullying. *Cyberpsychology, Behavior, and Social Networking*, 22(11), 736-741. doi: 10.1089/cyber.2019.0146
- World Health Organisation. (2018). *International classification of diseases for mortality and morbidity statistics* (11th Revision). World Health Organisation.
- Yépez-Tito, P., Ferragut, M., y Blanca, M.J. (2020). Sexting in adolescence: The use of technology and parental supervision. *Revista Latinoamericana de Psicología*, 52, 115-130. doi: 10.14349/rlp.2020.v52.12
- Yudes-Gómez, C., Baridon-Chauvie, D., & González-Cabrera, J. M. (2018). Ciberacoso y uso problemático de Internet en Colombia, Uruguay y España: Un estudio transcultural [Cyberbullying and problematic Internet use in Colombia, Uruguay, and Spain: A cross-cultural study]. *Comunicar. Revista Científica de Comunicación y Educación*, 56(3).

RECEIVED: February 10, 2024

ACCEPTED: May 13, 2024