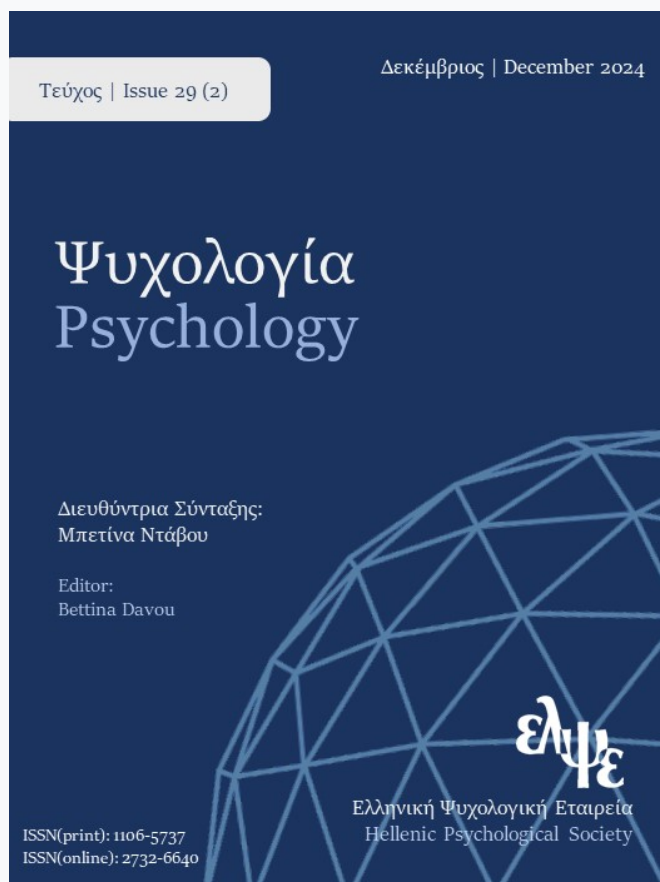


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## ΕΜΠΕΙΡΙΚΗ ΕΡΓΑΣΙΑ | RESEARCH PAPER

# The interplay of online sexual harassment victimization, personality factors, and experiences of loneliness

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## KEYWORDS

Online sexual harassment  
Dark triad  
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## ABSTRACT

In contemporary society, the internet plays a crucial role in enhancing connectivity among individuals. However, alongside its numerous advantages, the virtual realm presents challenges such as online sexual harassment, a prevalent issue characterized by offensive sexual messages. This study aims to explore the intricate relationship between online sexual harassment, personality traits, hostility, and loneliness. Conducted as descriptive, correlational, cross-sectional, and quantitative research, the study involved 472 participants of Portuguese nationality. The key findings underscore the significant prevalence of online sexual harassment victimization within this sample, highlighting dark personality traits, hostility, and loneliness as interconnected factors. Consequently, this study provides valuable insights into the existing literature by shedding light on the specific dynamics among the investigated variables.

## Introduction

As technology advances and social networking sites proliferate, new forms of violence, including online sexual harassment, have emerged (Barak, 2005; Silva et al., 2020). There exists a lack of consensus within the scientific community regarding the effects and behaviors associated with online sexual harassment (Gender, Violence, and Life Cycle Health Action [ASGVCV], 2016; Lindsay & Krysik, 2012; Staude-Müller et al., 2012). The globalization of the internet has heightened scrutiny of this issue, potentially transforming it into a public health concern due to the rapid development of online relationships (Brown & Krysik, 2011; Manuoğlu & Öner-Özkan, 2022).

Early investigations into sexual harassment primarily centered on the victimization of women in the workplace (Farley, 1978). Defined as unwanted sexual advances or conduct based on gender, it encompassed suggestive or discriminatory comments and sexual coercion that intended to compel the victim into undesired acts (Pina & Gannon, 2012; Tang & Fox, 2016). Online sexual harassment follows a similar pattern but often involves anonymity, making it easier for individuals to engage in such behaviors while imposing greater difficulty in enforcing consequences or penalties (Ritter, 2014; Silva et al., 2020).

The term online sexual harassment encompasses various harmful interpersonal violent behaviors aimed at exerting power over others through digital means (Chang, 2020; Pereira et al., 2016). These behaviors range

from humiliating sexual comments to sexting, using intimate photos for manipulation, and verbal abuse (Akter, 2018; Nova et al., 2019; Shariff & Gouin, 2006). These acts, occurring on social networking sites, aim to humiliate and threaten the victim (Lewis et al., 2020).

Social networking sites, namely chats, and forums, are identified as environments associated with this type of behavior due to the anonymity they provide, resulting in a higher incidence of both victims and aggressors (Festl et al., 2019; Silva et al., 2020). Private online communication networks, including the commercial distribution of pornographic websites via email, are also venues for such behaviors (Barak, 2005; Tang et al., 2019). These involve the circulation of sexist, offensive, and hostile messages, unwanted sexual provocations, the spreading of intimate rumors, sexual threats, intimidation, and the publication of explicit messages (sexting) (Li et al., 2017; Maas et al., 2019; MacPherson et al., 2018). A study of 3,000 young Americans found that almost half had experienced online harassment, and three-quarters had witnessed online harassment directed at others (Lenhart et al., 2015).

Researchers have extensively explored the correlation between online sexual harassment and various factors, with gender emerging as a prominent variable. Studies consistently indicate a significant gender gap, with women more frequently targeted as victims and men often identified as perpetrators (Henry & Powell, 2014; Patchin & Hinduja, 2018; Powell et al., 2019; Silva et al., 2020). Silva et al. (2020) found that 51.7% of a Portuguese sample of 543 participants experienced harassment on social networking sites, with the majority of perpetrators being male (45.55%) and unknown to the victims (37.9%). Similarly, Duggan (2014) reported that 26% of women experienced online stalking, and 25% faced online sexual harassment. Age is another variable drawing attention, with Festl et al.'s (2019) study on young German students aged 14-20 revealing that online sexual victimization is more prevalent in older age groups, particularly among adolescents and young adults. This aligns with findings from studies by Duggan (2014) and Vitak et al. (2017), where younger women experienced higher rates of physical threats and persistent harassment compared to their male counterparts (Duggan, 2014; Vitak et al., 2017).

Research has also delved into the impact of romantic relationships and online leisure activities on online sexual harassment, though these areas remain relatively understudied in the existing literature. Romantic engagement, dating, and the pursuit of relationships through online platforms have been associated with a higher likelihood of reporting instances of sexual harassment (Gewirtz-Meydan et al., 2023; Mitchell et al., 2014). Young individuals exploring dating may inadvertently find themselves in sexualized situations, contributing to an increased likelihood of experiencing sexual harassment (Mitchell et al., 2014; Taylor et al., 2019). Studies indicate a higher incidence of online sexual harassment complaints among users of dating apps (Choi et al., 2018; Echevarria, 2021).

In terms of internet use for leisure, highly active online engagement among young people correlates with a heightened risk of online victimization, including susceptibility to online sexual harassment (Heiman & Olenik-Shemesh, 2022; Silva et al., 2020). Increased internet and social media usage contribute to a rise in online victimization, including incidents of sexual harassment (Taylor et al., 2019; Lenhart et al., 2015), as exposure to potential aggressors is higher in individuals who spend more time online and who use social networking sites or dating sites (Marganski & Melander, 2015; Taylor et al., 2019).

Besides sociodemographic variables, issues related to romantic relationships, and online leisure activities, various personality traits—particularly those associated with the Dark Triad (Machiavellianism, narcissism, and psychopathy), have been explored in the literature to understand internet misconduct. Clancy et al. (2019) demonstrated positive associations between Dark Triad traits and sexting behaviors. The Dark Triad, representing a personality construct encompassing narcissism, Machiavellianism, and psychopathy, share common features such as manipulation, selfishness, insensitivity, lack of empathy, and absence of affection (Furnham et al., 2013; Jones & Paulhus, 2014; Leite et al., 2023; Palma et al., 2020).

Machiavellianism, characterized by traits like cunning and manipulation, involves cynical and deceptive characteristics, deviating from moral principles to achieve personal goals (Fehr et al., 1992; Leite et al., 2023; Piñeda et al., 2021; Piñeda et al., 2023). Individuals with high Machiavellianism scores are more likely to engage in sexting (Clancy et al., 2019; Piñeda et al., 2023). Narcissism involves strong self-beliefs, a sense of superiority, grandiosity, and a desire for validation (Piñeda et al., 2023; Raskin & Hall, 1981). Linked to problematic internet use, narcissistic individuals engage in online self-promotion, seeking positive feedback excessively (Hernández et al., 2021; Kircaburun & Griffiths, 2018; Pantic et al., 2017). This type of conduct is related to a higher rate of sexting behaviors, sexual motivations, and victimization by online grooming (e.g. sexual harassment) (Liu & Zheng, 2020). Hernández et al. (2021) concluded that extroverted and narcissistic young males are at greater risk of online victimization, including sexting. Psychopathy is characterized by emotional dysregulation, impulsivity, antisocial behaviors, and a lack of guilt (Palma et al., 2020). Individuals with psychopathy exhibit low empathy and possess a manipulative personality (Hernández et al., 2021; Piñeda et al., 2021). Psychopathy is associated with image-based sexual victimization, particularly cyber aggression and online sexual violence (Hernández et al., 2021; Karasavva and Forth, 2022; Moor & Anderson, 2019). To this moment, research has focused mainly on the relationship between the perpetration of online sexual harassment and the traits of the dark triad, but in relation to the victims, this relationship has not received the necessary attention. However, research into online behavioral problems such as cyber dating abuse (Caridade et al., 2019), cyberbullying (Marciano et al., 2020), and online sexual harassment (Moneva et al., 2020) shows that there is a tendency for victims to become aggressors and vice versa, due to the acceptance of these online behaviors as normal, and to their difficulty in respecting, defining and recognizing limits in online behavior (Caridade et al., 2019; Moneva et al., 2020).

In the context of personality-related variables, hostility, defined as an attitude of antipathy and negative evaluation of others, has gained attention. Linked to online sexual harassment in the gaming community, hostility is associated with aggressive behaviors, particularly in male gamers' interactions with women in online video games (Ballard & Welch, 2015; Brehm, 2013; Tang et al., 2019). Hostile sexism predicts male sexual harassment perpetration, emphasizing the aggressive content and context of video games (Fox & Tang, 2016; Tang & Fox, 2016; Tang et al., 2019).

In addition to personality-related variables, loneliness emerges as a variable associated with online misconduct. Studies on cyberbullying reveal that online victimization leads to increased stress, depression, anxiety, and loneliness (Kowalski et al., 2014). Loneliness is categorized into social and emotional types, both associated with online victimization (Festl et al., 2019; Heiman & Olenik-Shemesh, 2022; Mishna et al., 2012; Olenik-Shemesh et al., 2012). Positive correlations between online sexual victimization and loneliness suggest that lonely individuals are more likely to take risks when meeting new people online (Festl et al., 2019). Loneliness significantly predicts online sexual harassment, with women reporting higher levels of harassment when experiencing increased loneliness (Vitak et al., 2017). Also, young people who suffer from separation anxiety tend to engage in risky online sexual activities as a response to their loneliness (Efrati & Amichai-Hamburger, 2018).

The combination of dark personality traits, loneliness, and hostility creates a complex net of behaviors and interactions that can increase the likelihood of becoming a victim of online sexual harassment. These factors contribute to increased exposure to risky interactions, heightened vulnerability to manipulation, and the potential for escalating conflicts that lead to harassment. Regarding dark personality traits, individuals with traits such as narcissism, Machiavellianism, and psychopathy often exhibit manipulative, deceptive, and exploitative behaviors. These traits can make individuals more likely to engage in or become targets of harassment due to their provocative or antagonistic interactions online (Clancy et al., 2019; Hernández et al., 2021; Piñeda et al., 2023). Additionally, people with dark personality traits may engage in more risky behaviors online, increasing their

exposure to potential harassers. They might frequent platforms or engage in interactions that heighten their risk of victimization (Clancy et al., 2019; Hernández et al., 2021; Piñeda et al., 2023).

Concerning loneliness, individuals may spend more time online seeking social interaction and validation, making them more visible and accessible to potential harassers (Efrati & Amichai-Hamburger, 2018; Heiman & Olenik-Shemesh, 2022). Additionally, loneliness can make individuals more vulnerable to manipulation and exploitation. They might be less discerning about whom they interact with and may engage in interactions that put them at risk (Vitak et al., 2017). The desire for connection might lead lonely individuals to tolerate inappropriate behavior or engage in conversations that they would normally avoid, increasing their risk of victimization (Festl et al., 2019). Also hostility, hostile individuals might respond aggressively to perceived slights or insults, escalating conflicts that can lead to harassment (Silva et al., 2020). Furthermore, hostility can manifest in provocative or confrontational behavior, which can attract negative attention and retaliatory harassment. Hostile attitudes can create a cycle of negative interactions, where the individual is both a perpetrator and a victim of online aggression, including sexual harassment (Moneva et al., 2020). This study takes an innovative approach by addressing the scarcity of scientific research, both nationally and internationally, on victims of online sexual harassment and the variables being investigated. Previous studies have predominantly focused on the prevalence of online sexual harassment among specific groups, such as adolescents and online gamers, leaving a gap in understanding this behavior within the broader population. Moreover, existing literature has mainly explored the relationship between the variables under examination and harassment perpetration, highlighting the need for investigations centered on the victim and the potential negative traits they may exhibit.

Given that in online sexual harassment, victims may have experiences as perpetrators, as they see these behaviors as common in online social relationships, and may therefore accept or practice them (Schokkenbroek et al., 2024), the victim may assume the role of perpetrator as a way of responding and controlling the situation, thus justifying the study of variables, namely personality, which in the literature has been mostly studied as characteristics of aggressors (Moneva et al., 2020; Schokkenbroek et al., 2024). Consequently, this research aims to explore the interplay between online sexual harassment victimization, dark personalities, loneliness, and hostility. The specific study objectives include (i) understanding the prevalence of online sexual harassment victimization in the Portuguese sample; (ii) examining any associations between online sexual harassment victimization and participants' sociodemographic variables; and (iii) investigating the correlations between online sexual harassment victimization and loneliness, hostility, and the Dark Triad of personality (Machiavellianism, psychopathy and narcissism). Based on the examination of existing literature and the established objectives, we are undertaking this study with the following hypotheses: (A) The likelihood of encountering online sexual harassment is anticipated to be greater among females. (B) Younger participants and those identified as students in their occupational status are speculated to face higher exposure to online sexual harassment victimization. (C) Individuals engaged in a romantic or committed relationship are expected to experience lower levels of online sexual harassment victimization. (D) Participants who dedicate more hours to internet leisure activities are predicted to have higher scores on the online sexual harassment victimization scale. (E) Individuals living alone are expected to achieve higher scores on the online sexual harassment victimization scale. (F) A positive association is expected between online sexual harassment and the Dark Triad, as participants with higher victimization scores are expected to have higher Dark Triad scores. (G) Positive correlations are presumed between online sexual harassment and hostility, as victims are expected to score higher on hostility. (H) Victims of online sexual harassment are assumed to score higher on the loneliness variable, reflecting a positive correlation between online sexual harassment and loneliness.

## Method

### Sample

Following the scrutiny of the administered questionnaires and the application of inclusion criteria—namely, being above 18 years old, proficient in Portuguese, and consenting to participate in the research—the current study's sample comprises 472 individuals. The average age of the participants is approximately 28 years, with a predominance of female respondents. Additionally, a majority of the participants possess academic qualifications, identify as students, and do not reside alone (see Table 1). Notably, a significant portion of the participants is engaged in romantic relationships that have spanned more than three years, characterizing the nature of these relationships as committed. For those not currently in a romantic relationship, sixty-six individuals have not been involved in such a relationship within the last year (refer to Table 1). Finally, the majority of the participants actively utilize social media and the internet, dedicating three to six hours per day for non-professional or academic purposes (Table 1).

### Measures

The instruments used in this study were selected because they are validated for the Portuguese population and exhibit strong psychometric properties.

**Sociodemographic Questionnaire.** Following the literature review, a concise sociodemographic questionnaire was devised to characterize the sample. This questionnaire is organized into three sections: Demographic details, encompassing six questions covering gender, age, educational qualifications, occupation, living arrangement ("Lives alone"), and if not, the number of people cohabiting. Questions pertaining to romantic relationships, consisted of four questions addressing relational status, whether the participants were in a romantic relationship at the time of the study, if they were currently single, the duration of their last relationship, and the nature of that relationship (with or without commitment). Questions related to internet usage, include two questions assessing the frequency of social network/internet use and the daily duration spent on the internet or social networking sites for non-academic or professional purposes.

**Online Sexual Harassment.** Lewis et al. (2020) crafted the Online Harassment scale, a single-factor scale comprising 9 items designed to evaluate distinct manifestations of online harassment. Respondents are required to indicate the frequency of each situation occurring to them by marking the corresponding value on a 7-point Likert scale (1- *Never*; 2- *Rarely*; 3- *Occasionally*; 4- *Sometimes*; 5- *Often*; 6- *Many times*; 7- *Always*). A higher score reflects a greater occurrence of online sexual harassment victimization. The initial item gauges general online harassment, while the subsequent items delve into specific aspects of the construct. In our study, we utilized only 8 items, excluding the first one, which is tailored specifically to journalists and not applicable to the general population. In terms of reliability, the scale demonstrated a high level, as indicated by a Cronbach's alpha of .88. Leite et al. (2023) validated the Portuguese version of the eight items, adhering to the model proposed by the original authors, and reported a commendable Cronbach's alpha of .83.

**Table 1.** *Sample Characteristics*

		Total sample (N = 472)
<b>Sociodemographic variables</b>		
		<b>M ± SD</b>
Age	Total	28.27 (11.9)
	Man	27.59 (10.87)
	Woman	28.48 (12.25)
Sex		<b>n (%)</b>
	Man	114 (24.2)
	Woman	358 (75.8)
Education	1st Cycle of Basic Education or lower	8 (1.7)
	2nd Cycle of Basic Education	4 (0.8)
	3rd Cycle of Basic Education	16 (3.4)
	Secondary education or equivalent	199 (42.2)
	Bachelor's/master's/doctorate or higher	245 (51.9)
Education recoded	Without university studies	227 (48.1)
	With university studies	245 (51.9)
Occupation	Student	255 (54.02)
	Employed	180 (38.1)
	Unemployed	30 (6.4)
	Retired	7 (1.5)
Occupation recoded	Students	255 (54.02)
	Non students	217 (45.98)
Live alone?	No	432 (91.5)
	Yes	40 (8.5)
If not, how many people do you live with?	Not applicable	36 (7.6)
	1 to 2 persons	194 (41.1)
	3 to 4 persons	206 (43.6)
	5 to 6 persons	31 (6.6)
	More than 7 persons	5 (1.1)
<b>Relationship variables</b>		
Relationship status	I am currently in a loving relationship	275 (58.3)
	I'm not currently in a romantic relationship	197 (41.7)
Duration of the relationship	Less than 1 year	46 (16.7)
	Between 1 and 3 years	62 (22.5)
	More than 3 years	20 (66.7)
If you answered that you are currently not in a romantic relationship, were you in a romantic relationship less than a year ago?	No	131 (66.5)
	Yes	66 (33.5)
Nature of the relationship	I am not in a relationship	163 (34.5)
	Without commitment	47 (10.0)
	With commitment	262 (55.5)
<b>Social media</b>		
Do you usually use social media/internet?	No	10 (2.1)
	Yes	462 (97.9)
How many hours per day do you spend on the internet/social media (for non-academic or non-professional tasks)?	0 a 2 hours	162 (34.3)
	3 a 6 hours	261 (55.3)
	7 a 10 hours	38 (8.1)
	More than 10 hours	11 (2.3)

\*Note. N = frequencies; % = percentage; M= media; SD= standard deviation

**Dark Triad 12 (TN-12).** Jonason & Webster (2010) devised the Dark Triad: Dirty Dozen scale, a multidimensional instrument examining three personality dimensions - narcissism, Machiavellianism, and psychopathy. Comprising 12 items, four per factor, this version was designed for a more convenient and time-efficient application. Respondents expressed their agreement level with the items using a 5-point Likert scale (*1- strongly disagree to 5- strongly agree*). A high score in any dimension signifies an alignment with the associated behaviors (Macedo et al., 2017). In terms of reliability, the scale demonstrated high consistency, evidenced by a Cronbach's alpha ( $\alpha$ ) of .83 for the overall scale. The Narcissism factor showed an  $\alpha$  of .79, the Psychopathy factor had an  $\alpha$  of .63, and the Machiavellianism factor exhibited an  $\alpha$  of .72 (Jonason & Webster, 2010). The Portuguese version, validated as the Dark Triad-12 by Macedo et al. in 2017, retained the three factors and 12 items from the original version. Psychometrically, the validated version displayed an  $\alpha$  of .72 for the overall scale, with the Narcissism factor at  $\alpha$  = .74, the Psychopathy factor at  $\alpha$  = .64, and the Machiavellianism factor at  $\alpha$  = .73 (Macedo et al., 2017).

**Hostility (subscale of the Brief Symptoms Inventory).** Derogatis (1982) introduced the "Brief Symptom Inventory (BSI)," a tool evaluating 53 psychopathological symptoms distributed across nine dimensions of symptomatology and three Global Indexes, which offer summary assessments of emotional disturbance. Respondents are required to indicate the extent to which each symptom affected them in the past week, utilizing a 5-point Likert scale (*0- Never; 1- Rarely; 2- Sometimes; 3- Often; 4- Very Often*) (Canavarro, 1999). A higher score signifies a higher prevalence of the respective symptomatology. Regarding reliability, the authors do not provide detailed psychometric properties but offer reference values ranging from  $\alpha$  = .71 in the Psychoticism dimension to  $\alpha$  = .85 in the Depression dimension (Derogatis, 1982). The Portuguese version, known as the Psychopathological Symptoms Inventory and validated by Canavarro (1999), demonstrated commendable psychometric qualities, with alpha values ranging from .62 to .80. In our study, we exclusively utilized the Hostility subscale, consisting of five items. The primary objective was to assess thoughts, emotions, and behaviors indicative of negative affective states. This subscale exhibited robust psychometric properties ( $\alpha$  = .76), rendering it suitable for individual use (Canavarro, 1999).

**The UCLA Loneliness Scale Short Version (ULS-6).** To gauge feelings of loneliness, we employed the shortened version of the UCLA Loneliness Scale (ULS-6), as developed by Russell (1996). This is a one-dimensional scale comprising six items designed to evaluate the perceived sense of social isolation. Participants were tasked with indicating the frequency with which they experienced the emotions described in each statement. They marked the corresponding value on a 4-point Likert scale (*1- Never; 2- Rarely; 3- Sometimes; 4- Often*), with a higher score indicating a more profound sense of loneliness. The scale demonstrated a high level of reliability, as evidenced by a Cronbach's alpha ( $\alpha$ ) of 0.90. The Portuguese version of the ULS-6, validated by Neto (2014), maintained the same factorial structure and item count. In terms of reliability, it also exhibited a high level, with a Cronbach's alpha of .82 (Neto, 2014).

### **Procedure**

We requested authorization from the authors of the original instruments via email, and all permissions were granted. The research then progressed to the development of a protocol, which included components such as informed consent, sociodemographic variables, and the selected instruments. After finalizing the protocol, it was evaluated and approved by the Ethics Committee of the University of Trás-os-Montes e Alto Douro. During data collection, we adhered to fundamental ethical principles, ensuring confidentiality, anonymity, and voluntary participation of the subjects. All participants provided informed consent, which specified that participation was anonymous, voluntary, and without compensation, and outlined the inclusion criteria. Participants had to select one of two options at the beginning of the survey: "I am over 18 years old, fluent in Portuguese, and I accept to participate" or "I do not meet the participation requirements and/or I do not wish to participate." Selecting the



first option allowed them to proceed with the survey. Upon completion of data collection, we applied appropriate statistical analyses to the variables to address the research objectives and hypotheses. Finally, we interpreted the results in light of existing literature, presented the main conclusions, acknowledged research limitations, and suggested practical implications for future studies.

## Data analysis

The data analysis was conducted using SPSS version 28. Initially, descriptive statistics, including mean, mode, maximum, and minimum, were computed. To confirm the presence of a normal distribution, an assessment of distribution symmetry (univariate normality) was carried out using Skewness and Kurtosis coefficients. The internal consistency of the instruments employed in relation to the collected sample was verified by calculating Cronbach's alpha ( $\alpha$ ) (Marôco, 2014). To explore potential statistically significant differences between the dependent and independent variables, a one-way analysis, involving mean ( $M$ ) and standard deviation ( $SD$ ), was performed through the t-test. Bivariate correlation analysis was undertaken using Pearson's correlation coefficient ( $r$ ) and Spearman's rho ( $\rho$ ) to gauge the levels of correlation between variables. Furthermore, hierarchical regression analysis was executed to comprehend which variables contribute to explaining the values of online sexual harassment victimization. Hierarchical regression analysis was used to understand the relationship between multiple independent variables and a dependent variable by entering the independent variables into the regression equation in steps or blocks. R-squared ( $R^2$ ) showed the proportion of variance in the dependent variable explained by the independent variables. Change in R-squared ( $\Delta R^2$ ) presented the increase in R-squared when new variables were added, indicating their unique contribution to explaining the variance in the dependent variable. After each step, the statistical significance of the change in R-squared is tested to determine if the newly added variables significantly improve the model, using an F-test. Beta coefficients indicated the standardized impact of each independent variable. All statistical analyses adhered to a significance level of  $p < .05$ .

## Results

Descriptive statistics were analysed and the skewness and kurtosis values for each item were calculated. Adhering to the normative criteria established by Kline (2015), wherein skewness  $|sk| < 3$  and kurtosis  $|ku| < 10$  are considered acceptable, the majority of items in this scale exhibit a normal distribution (except item four from the online sexual harassment scale). Additionally, calculations were performed for descriptive statistics, including mean and standard deviation, for both the overall scale and its sub-scales in this study; furthermore, Cronbach's alpha values were computed: Online Harassment Scale ( $M = 2.09$ ;  $SD = .97$ ;  $\alpha = .85$ ); Dark Triad total ( $M = 2.19$ ;  $SD = .62$ ;  $\alpha = .82$ ); Narcissism ( $M = 2.48$ ;  $SD = .86$ ;  $\alpha = .79$ ); Psychopathy ( $M = 2.14$ ;  $SD = .73$ ;  $\alpha = .59$ ); Machiavellianism ( $M = 1.83$ ;  $SD = .84$ ;  $\alpha = .82$ ); Hostility total ( $M = 1.01$ ;  $SD = .71$ ;  $\alpha = .81$ ); and UCLA Loneliness total ( $M = 2.32$ ;  $SD = .55$ ;  $\alpha = .85$ ). The Cronbach's alpha values for all total scores and sub-scales fall within the expected range, except for the Psychopathy sub-scale within the Dark Triad, which exhibits a lower value. Furthermore, there is a positive and significant correlation among all variables. Online Sexual Harassment demonstrates significant and positive correlations with all dimensions, ranging from  $r = .173$  (with Narcissism) to  $r = .366$  (with Hostility).

Statistically significant differences were found between genders regarding online sexual harassment values, with the mean score being higher in females ( $M=2.14 \pm SD= 1.00$ ) than in males ( $M=1.94 \pm SD= .84$ ); [ $t(223, 325) = 2.056$ ;  $p=.041$ ;  $d=.202$ ]. Statistically significant differences were also found between occupational categories concerning online sexual harassment values, with the mean score being higher in students ( $M=2.20 \pm DP= .96$ ) than in non students ( $M=1.96 \pm SD= .96$ ); [ $t(470) = 2.776$ ;  $p=.006$ ;  $d=.256$ ]. Regarding the variable "lives alone" (yes or no), statistically significant differences were found in relation to online sexual harassment



values, with the highest mean score found in participants who live alone. ( $M=2.54 \pm SD=1.24$ ) and the lowest in those who do not live alone ( $M=2.05 \pm SD=.93$ ); [ $t(43,132) = -2.461$ ;  $p=.018$ ;  $d=-.517$ ].

Regarding variables related to romantic relationships, statistically significant differences were found between those who are in a relationship ( $M=1.98 \pm SD=.96$ ) and those who are not in a relationship ( $M=2.24 \pm SD=.96$ ) concerning online sexual harassment values [ $t(470) = -2.932$ ;  $p=.004$ ;  $d=-.274$ ], with the highest average in participants who are not in a relationship. Statistically significant differences were also found in online sexual harassment values between participants whose relationship was without commitment ( $M=2.73 \pm SD=1.16$ ) and with commitment ( $M=1.94 \pm SD=.87$ ), with the highest average observed in participants with a non-committed relationship [ $t(55,660) = 4.432$ ;  $p<.001$ ;  $d=.856$ ]. On the other hand, there were no statistically significant differences between the options of the education variable regarding online sexual harassment values, meaning that there are no behavioral differences between participants with university qualifications and those without.

Additionally, there was a significant negative correlation between online sexual harassment values and age ( $r=-.191$ ;  $p=.001$ ), furthermore, there was a significant positive correlation between online sexual harassment values and the number of hours per day that participants spend on the internet for non-professional or academic activities ( $\rho=.197$ ;  $p<.001$ ).

The correlations between psychological variables and online sexual harassment are presented in Table 2. All variables correlate with each other in a positive and significant way. Regarding victimization due to online sexual harassment, the psychological variable that showed the highest correlation was hostility.

**Table 2.** *The Correlations Between Psychological Variables and Online Sexual Harassment*

	1	2	3	4	5	6	7
1. Online Sexual Harassment	1						
2. Total Dark Triad	.275 (189-356)**	1					
3. Narcissism	.173 (084-259)**	.732 (687-771)**	1				
4. Psychopathy	.194 (105-279)**	.749 (706-786)**	.260 (174-342)**	1			
5. Machiavellianism	.268 (182-350)**	.831 (801-857)**	.383 (303-457)**	.535 (467-956)**	1		
6. Hostility	.366 (285-441)**	.400 (321-473)**	.259 (173-341)**	.277 (191-358)**	.387 (308-461)**	1	
7. Loneliness	.227 (140-311)**	.214 (125-298)**	.138 (048-225)**	.142 (052-229)**	.213 (125-297)**	.358 (276-434)**	1

\*Note. \*\* $p < .001$ ; (Confidence Interval) = The estimation is based on Fisher's  $r$ -to- $z$  transformation with bias adjustment

In order to assess the predictive role of personality traits and other variables under study in relation to online sexual harassment, a hierarchical regression analysis was conducted. The gender variable was coded as women 0 and men 1; the education variable was coded as no university education 0 and with university education 1; the occupation variable was coded as student 0 and non-student 1; the relationship status variable was coded as in a relationship 0 and not in a relationship 1; the duration of the relationship variable was coded as follows: Less than 1 year 0, Between 1 and 3 years 1, and More than 3 years 2; the social media use variable was coded as no 0 and yes 1; and finally, the time spent on the internet variable was coded as 0 to 2 hours 0, 3 to 6 hours 1, 7 to 10 hours 2, and More than 10 hours 3. Table 3 presents the variables that contribute to explaining 27% of the variance in online sexual harassment. The relevant variables are age, occupation, relationship duration, relationship nature, Machiavellianism, and hostility. Relationship nature and hostility exhibit a higher explanatory value than other variables, indicating a more significant contribution to explaining online sexual harassment.

**Table 3.** Variables that Contribute to Explain Online Sexual Harassment

Variables	Model 1			Model 2			Model 3		
	<i>B</i>	<i>EP B</i>	$\beta$	<i>B</i>	<i>EP B</i>	$\beta$	<i>B</i>	<i>EP B</i>	$\beta$
Gender	-.056	.130	-.024	-.062	.129	-.027	-.158	.128	-.068
Age	-.024	.006	-.304**	-.020	.006	-.262**	-.017	.006	-.221*
Education	-.056	.068	-.047	-.068	.067	-.057	-.015	.065	-.012
Occupation	.295	.103	.207*	.287	.102	.202*	.201	.100	.141*
Relationship status	-1.034	.210	-.276**	-.916	.212	-.245**	-.789	.205	-.211**
Duration of the relationship	-.170	.080	-.136*	-.150	.079	-.120	-.147	.074	-.118*
Social media use				-.148	.375	-.023	-.039	.354	-.006
Time spent on social media				.260	.080	.188**	.121	.080	.088
Narcissism							.017	.067	.015
Psychopathy							.058	.085	.044
Machievellianism							.205	.084	.171*
Hostility							.266	.094	.187*
Loneliness							.049	.082	.034
R <sup>2</sup> (R <sup>2</sup> Adj.)	.1700 (.152)			.203(.179)			.307 (.272)		
F for change in R <sup>2</sup>	9.16**			5.40*			7.85**		

R<sup>2</sup> = R-squared; R<sup>2</sup> Adj. = R-squared adjusted; B = Unstandardized regression coefficients; EP B = unstandardized error of B;  $\beta$  = standardized regression coefficients; \* $p < 0.01$ ; \*\* $p < 0.001$ .

## Discussion

In recent years, the scientific community has focused on studying issues related to internet misconduct and misuse. Among them is the study of online sexual harassment. With the evolution of technology, online sexual harassment has been growing in the digital world, prompting researchers to understand the behaviors, effects, and consequences it has on society (ASGVCV, 2016; Barak, 2005; Brown & Krysik, 2011; Lindsay & Krysik, 2012; Manuoğlu & Öner-özkan, 2022; Silva et al., 2020; Staude-Müller et al., 2012). Therefore, the main objective of this article was to understand the association between online sexual harassment, dark personality traits, hostility, and loneliness. For the accomplishment of this study, three specific objectives were defined, and hypotheses were subsequently formulated.

The first objective consisted of (i) "knowing the prevalence of online sexual harassment victimization in the Portuguese sample," with the following hypothesis formulated: (A) "It is expected that the prevalence of online sexual harassment is higher in females"; this hypothesis was confirmed, as female participants scored higher on the online sexual harassment victimization scale. The presented results are supported by existing literature. In a study by Duggan (2014), the author concluded that many women reported being pursued online, and a large percentage of them had experienced online sexual harassment (Duggan, 2014). Similarly, several authors emphasize that women tend to be more victims of online sexual victimization (Henry & Powell, 2014; Patchin & Hinduja, 2018; Powell et al., 2019; Silva et al., 2020).

The second outlined objective consisted of (ii) "understanding if there was any association between online sexual harassment victims and participants' sociodemographic variables." The following hypotheses were formulated based on this objective: (B) "It is conjectured that younger participants and those whose professional occupation is a student are more exposed to being victims of online sexual harassment"; this hypothesis was confirmed. The results indicated a negative correlation between age and online sexual harassment victimization, meaning that the younger the participant, the higher the score on the online sexual harassment victimization scale. The results also showed statistically significant differences between the professional occupation variable

and sexual victimization, with students having higher values on the online sexual harassment victimization scale. These findings were further reinforced in the regression analysis, in which age and professional occupation had some explanatory power for online sexual harassment victimization. These results align with what is described in the literature. Festl et al. (2019) conducted a study with young German students and concluded that online sexual victimization occurs more frequently in adolescents and young adults. Other studies have shown that younger women and students experienced higher rates of physical threats and frequent online sexual harassment (Duggan, 2014; Silva et al., 2020; Vitak et al., 2017). Additionally, based on objective two (ii), the following hypothesis was raised; (C) "It is expected that participants who are in a romantic or loving relationship with commitment are less exposed to being victims of online sexual harassment," and this hypothesis was confirmed by our results. It was possible to verify that higher values of online sexual harassment victimization were present in participants who had no relationship or had non-committal relationships. Although the literature regarding this variable is still scarce and inconsistent, there are some studies that support our conclusions (Choi et al., 2018; Echevarria, 2021; Gewirtz-Meydan et al., 2023). The search for a relationship through the Internet and dating applications is described in the literature as a significant predictor of online sexual harassment complaints (Gewirtz-Meydan et al., 2023). A study by Echevarria (2021) revealed that the vast majority of users of dating/meeting applications reported having experienced at least one case of online sexual harassment (Echevarria, 2021).

Furthermore, the following hypothesis was formulated according to objective two: (D) "It is predicted that there will be a higher score on the online sexual harassment victimization scale for participants who spend more hours using the internet for leisure purposes." Hypothesis D was confirmed, as a positive correlation was found between a higher number of hours spent on the internet for leisure and a higher score on the online sexual harassment victimization scale. The literature indicates that young people who are more active online are more prone to online victimization. In other words, being more present online can lead to greater exposure of individuals, allowing for easier contact and "reach" of victims (Heiman & Olenik-Shemesh, 2022; Lenhart et al., 2015; Silva et al., 2020; Taylor et al., 2019).

The second outlined objective consisted of (ii), the following hypothesis was formulated: (E) "It is expected that individuals who live alone obtain a higher score on the online sexual harassment victimization scale." The results confirmed this hypothesis, with participants who live alone scoring higher on the online sexual harassment victimization scale. These findings are supported by existing literature. Efrati and Amichai-Hamburger (2018) demonstrated that adolescents with high levels of separation anxiety were more likely to engage in online sexual activities to compensate for loneliness. Several studies, including the study by Vitak and colleagues (2017), described loneliness as a significant predictor of online sexual harassment victimization.

The last specific objective was (iii) "to study the association between online sexual harassment victimization, loneliness, hostility, and the Dark Triad of personality (Machiavellianism, psychopathy, and narcissism)." Two hypotheses were formulated for this specific objective: (F) "It is expected that there is a positive correlation between the online sexual harassment scale and the Dark Triad, as victims of online sexual harassment are expected to score higher on the sub-scales of the Dark Triad." The results confirmed the above hypothesis, showing a positive correlation between online sexual harassment, the total scale of the Dark Triad, and its sub-scales, with a higher positive correlation with the Machiavellianism sub-scale. Existing literature and empirical research support our results. Clancy et al. (2019) showed that all three personality traits of the Dark Triad had positive connections with sexting victimization behaviors. In another study, Hernández et al. (2021) concluded that more extroverted, narcissistic, uninhibited, and less empathetic young people were more likely to be victims of some type of online victimization. However, the literature associates Machiavellianism with the perpetuation of online sexual harassment rather than victimization (Hernández et al., 2021; Van Ouytsel et al., 2017), which was not demonstrated in our results. On the other hand, the literature also suggests that individuals with a

pronounced Machiavellian personality tend to engage in more sexting (Clancy et al., 2019; Piñeda et al., 2023). These data may support our results, as sexting practices are linked to online sexual harassment victimization. Perpetrators use sexting messages to manipulate victims to achieve something in return, allowing online sexual harassment victimization to be associated with Machiavellian personality traits.

Still, within objective three, the hypothesis (G) was formulated: "Positive correlations are expected between online sexual harassment and hostility, considering that victims of online sexual harassment are expected to score higher on hostility". The results showed a positive correlation between online sexual harassment and hostility. This finding indicates that individuals who experience online sexual harassment tend to exhibit higher levels of hostility. The positive correlation was further confirmed through regression analysis, which identified hostility as a significant explanatory variable. Several factors could explain this unexpected positive correlation: Victims of online sexual harassment might develop hostile attitudes as a defense mechanism or as a result of prolonged exposure to negative and aggressive behavior. This heightened hostility could be a coping strategy to deal with the harassment (Silva et al., 2020). There may be a bidirectional relationship where individuals who are already hostile are more likely to become targets of online sexual harassment. Their hostile interactions online could provoke or attract harassment from others (McInroy & Mishna, 2017; Silva et al., 2020; Tang et al., 2019). The experience of being harassed can lead to increased feelings of anger and hostility. Victims might become more hostile due to the psychological trauma and frustration caused by the harassment (Silva et al., 2020). Some individuals might both experience and perpetrate online sexual harassment. Those with hostile traits might engage in aggressive online behaviors and, as a result, also become targets of similar behaviors from others (McInroy & Mishna, 2017; Tang et al., 2019). Hostile environments and interactions online could contribute to a cycle of aggression, where victims and perpetrators are part of the same toxic digital spaces, reinforcing hostile behaviors (McInroy & Mishna, 2017; Tang et al., 2019).

Finally, according to objective three (iii), the last hypothesis under study was formulated; (H) "It is assumed that victims of online sexual harassment score higher on the loneliness variable, as a positive correlation is expected between online sexual harassment and loneliness." This hypothesis was confirmed, as positive correlations were found between loneliness and online sexual harassment victimization. These data reinforce hypothesis (E), which states that people who live alone tend to be more victims of online sexual harassment. Existing literature supports these conclusions. Festl et al. (2019) conducted research and concluded that online sexual victimization is positively related to loneliness, highlighting that individuals who feel alone are more likely to have online risk experiences when meeting new people. Numerous authors emphasize that women with a higher level of loneliness report experiencing more online sexual harassment (Efrati & Amichai-Hamberger, 2018; Heiman & Olenik-Shemesh, 2022; Vitak et al., 2017).

In summary, the study reveals the significant role of online sexual harassment victimization in the Portuguese sample. Darker personality traits in our study are associated with online sexual harassment victimization, although most of the existing literature documents this relationship in perpetration, which suggests that victims may also become offenders (Moneva et al., 2020). Hostility is found to be linked to victimization, possibly indicating a behavioral response to avoid further victimization. Loneliness is identified in victims, increasing their vulnerability to harassment.

However, the study acknowledges several limitations. It focused on a Portuguese sample, which may limit the generalizability of the findings to other cultural or national contexts. Different cultural attitudes toward online behavior and sexual harassment might influence the results. The research employed a cross-sectional design, which restricts the ability to establish causality between variables. Longitudinal studies would be needed to better understand the temporal relationships and causal pathways. Data were collected through self-reported measures, which are subject to biases such as social desirability, memory recall issues, and the participants' willingness to disclose sensitive information accurately. The study primarily examined victimization and did not equally address the perspectives of perpetrators of online sexual harassment, which could provide a more

comprehensive understanding of the dynamics involved. Additionally, hostility and loneliness are complex constructs that can be influenced by various factors not accounted for in this study. The simplistic measurement of these variables might overlook important subtleties. While the study adhered to ethical principles, the sensitive nature of online sexual harassment might have influenced participants' responses. The emotional and psychological states of participants during the survey could affect their answers. The study's emphasis on the Dark Triad traits may not encompass all relevant personality characteristics that could influence online behavior and victimization. Other traits like empathy, resilience, and general aggression might also play significant roles. Finally, the research focuses on specific risk factors, limiting the breadth of conclusions.

Based on the limitations outlined, future studies could address these challenges through several approaches, namely, by expanding the sample to include participants from various cultural and national backgrounds to enhance the generalizability of the findings. Comparative studies across different cultures could reveal how cultural attitudes influence online behavior and sexual harassment. Additionally, the implementation of longitudinal studies to explore the temporal relationships and causal pathways between variables would help establish causality and track changes over time. Using a combination of quantitative and qualitative methods may support a more comprehensive understanding of the phenomena. Qualitative interviews, focus groups, and ethnographic methods could provide deeper insights into participants' experiences and perspectives. Incorporating the perspectives of perpetrators of online sexual harassment would contribute to understanding the dynamics from both sides, which could help in developing more effective prevention and intervention strategies. At last, developing and using more nuanced and comprehensive measures of constructs like hostility and loneliness that capture different aspects of these constructs.

The study's main contributions include providing insights into the association between online sexual harassment victimization, dark personality traits, hostility, and loneliness. It sheds light on the prevalence of the construct in the Portuguese sample, addresses taboo issues, and offers empirical evidence on the relatively unexplored topic of online sexual harassment. Likewise, it analyzes hostile online behavior in the context of victimization. Lastly, to interpret and discuss the results, we referenced literature on various forms of online victimization, including online sexual harassment. This approach is innovative due to the limited literature specifically addressing the relationship between online sexual harassment and the variables under study.

## **Declarations**

### ***Conflicts of interest/Competing interests***

The authors declare no conflict of interest.

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### ***Data Availability Statement***

Data will be available upon reasonable request.

### ***Authors' contributions***

All the authors contributed to the conceptualization, investigation, analysis, and writing of the study.

### ***Ethics approval***

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## **Consent to participate**

Participants signed an informed consent.

## **Consent for publication**

All the authors agree with the content of the study.

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## ΕΜΠΕΙΡΙΚΗ ΕΡΓΑΣΙΑ | RESEARCH PAPER

# Η αλληλεπίδραση της θυματοποίησης από σεξουαλική παρενόχληση στο διαδίκτυο, των παραγόντων προσωπικότητας και των εμπειριών μοναξιάς

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## ΛΕΞΕΙΣ ΚΛΕΙΔΙΑ

Σεξουαλική παρενόχληση στο  
διαδίκτυο  
Σκοτεινή τριάδα  
Εχθρότητα  
Μοναξιά

## ΠΕΡΙΛΗΨΗ

Στη σύγχρονη κοινωνία, το διαδίκτυο διαδραματίζει καθοριστικό ρόλο στην ενίσχυση της συνδεσιμότητας μεταξύ των ατόμων. Ωστόσο, παράλληλα με τα πολυάριθμα πλεονεκτήματά του, το εικονικό βασίλειο παρουσιάζει προκλήσεις όπως η διαδικτυακή σεξουαλική παρενόχληση, ένα διαδεδομένο ζήτημα που χαρακτηρίζεται από προσβλητικά σεξουαλικά μηνύματα. Η παρούσα μελέτη αποσκοπεί στη διερεύνηση της περίπλοκης σχέσης μεταξύ της διαδικτυακής σεξουαλικής παρενόχλησης, των χαρακτηριστικών της προσωπικότητας, της εχθρότητας και της μοναξιάς. Η έρευνα ήταν περιγραφική, συσχετιστική, συγχρονική και ποσοτική με 472 συμμετέχοντες πορτογαλικής υπηκοότητας. Τα βασικά ευρήματα επιβεβαιώνουν τον υψηλό αριθμό περιστατικών θυματοποίησης από σεξουαλική παρενόχληση στο διαδίκτυο στο συγκεκριμένο δείγμα, αναδεικνύοντας τα σκοτεινά χαρακτηριστικά προσωπικότητας, την εχθρότητα και τη μοναξιά ως αλληλένδετους παράγοντες. Κατά συνέπεια, η παρούσα μελέτη παρέχει πολύτιμες πληροφορίες στην υπάρχουσα βιβλιογραφία, ρίχνοντας φως στη συγκεκριμένη δυναμική μεταξύ των μεταβλητών που διερευνήθηκαν.

## ΣΤΟΙΧΕΙΑ ΕΠΙΚΟΙΝΩΝΙΑΣ

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