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Exploring the dark triad and sexting practices in Portuguese young adults

Mariana Costa^{1*} , Cláudia Gouveia¹ and Sónia Caridade¹

*Correspondence:

Mariana Costa
mfcosta2001@gmail.com
¹Psychology Research Center (CIPsi),
School of Psychology, University of
Minho, Campus de Gualtar,
Braga 4710-057, Portugal

Abstract

In order to maintain intimate relationships and explore their own sexuality, young adults commonly use Information and Communication Technologies (ICT) for Online Sexual Activities (OSA). OSA activities like sexting have increased significantly with the widespread adoption of ICT, exposing young people to heightened risks of online violence. This study aims to validate and examine the psychometric properties of the Sexting Scale for the Portuguese population, describe the prevalence of sexting among young adults in Portugal, and investigate possible correlations with personality traits. The sample included 329 participants ($M_{age}=20.83$; $SD=1.992$). The Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) demonstrated very acceptable values, supporting a three-factor model of sexting: erotic, pornographic, and romantic. Among the participants, 94.8% of women and 85.5% of men reported engaging in at least one act of sexting. Sexting experience showed a strong and positive association with higher levels of machiavellianism and narcissism. However, no significant association was found between sexting and high levels of psychopathy. These findings underscore the importance of addressing non-consensual sexting as a critical health and social issue, emphasizing the need for interventions aimed at preventing and managing this form of abuse.

Keywords Online sexual activity (OSA), Sexting, Personality, Dark triad

1 Introduction

Information and Communication Technologies (ICT) are frequently used to engage in Online Sexual Activities (OSA), maintain intimate relationships, and explore sexuality [1]. OSA can include cybersex, sexting, viewing pornography, and online grooming, among others.

Sexting (“sex” + “texting”) refers to the exchange of personal text messages containing sexually explicit, erotic (sext), or provocative content, as well as nude or partially nude photographs or videos, via ICT [2]. It should be noted that, while sending such material can serve as a form of sexual expression, receiving unsolicited or unwanted sexts may constitute harassment [2]. In this study, we differentiate sexting behaviors into two categories: erotic and pornographic sexting. Erotic sexting involves sharing appealing,



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erotic, and sexually suggestive images, whereas pornographic sexting pertains to the dissemination of explicit nude or semi-nude visual content [3].

The emergence and diffusion of the Internet and smartphones in interpersonal communication, including \sexual communication, has increased considerably in the past years. Sexting has become increasingly common among young people. For instance, an Argentinian study conducted by Resett et al. [4], involving adolescents aged 11–18, found that 12% of participants engaged in sexting behaviors. The most common forms included sending sexually explicit textual messages and images, followed by video recordings. Similarly, a study by Hernández et al. [1], conducted with adolescents aged 12–16, revealed that approximately one-third were at risk of engaging in erotic sexting (27.2% of boys and 26.2% of girls). A smaller proportion was identified as being at risk of pornographic sexting (15.5% of boys and 7.5% of girls). These findings align with a meta-analysis by Madigan et al. [5], which reported that 14.8% of teenagers send sexts, while 27.4% receive them. Sexting behavior also remains prevalent among adults. A meta-analysis by Mori et al. [2] found that, on average, 38% of emerging adults reported sending sexts, 42% reported receiving them, and 48% engaged in reciprocal sexting.

Unlike the well-researched impact of in-person sexual behavior, the consequences of sexting remain underexplored. Depending on its context and purpose, sexting can function as either a protective or a risk factor [6]. Literature suggests that sexting activities are associated with positive self-reported outcomes, such as feelings of joy, enthusiasm, arousal, and increased opportunities for sexual engagement [3]. However, sexting has also been linked to negative outcomes, including depression, low self-esteem, and loneliness [5], as well as associations with other risky behaviors, such as smoking, substance use, alcohol abuse, and aggressive behaviors in both online and offline contexts [7].

Previous research has shown that various personality traits play a significant role in contributing to sexual and erotic online behaviors. Notably, some studies have examined the Dark Triad traits (Machiavellianism, narcissism, and psychopathy) as predictors of sexting among adolescents [4]. However, the specific relationship between the Dark Triad traits and sexting behavior in young adults remains scarcely studied.

The Dark Triad of Personality is a widely recognized model of malevolent personality traits that encompasses three subclinical personality constructs: Machiavellianism, narcissism, and psychopathy. While these traits are often considered undesirable, they fall within the range of normal human behavior [8]. Machiavellianism is a personality trait essentially defined by three aspects: manipulation, callous affect, and strategic orientation [9]. Individuals with the trait of Machiavellianism manipulate and strategically plan their actions in [9]. Narcissism is characterized by exaggerated self-esteem, individualistic and grandiose perspectives, and a high sense of dominance and superiority [8]. Narcissistic individuals engage in self-promotion behavior, which is oriented toward the need for ego enhancement and strengthening. Additionally, their goals are guided by the grandiosity identity they possess [9]. The psychopathy trait is considered the most aversive construct of the Dark Triad, characterized by a pattern of insensitivity, impulsivity, lack of empathy, malevolence, and disinhibition [8]. Therefore, psychopathic individuals demonstrate destructive patterns of interpersonal behavior and use manipulative and engaging techniques [10], as well as poor decision-making and failure to inhibit antisocial impulses [9].

Recent research highlights the relationship between the antisocial aspects of personality—collectively referred to as the Dark Triad—and involvement in Online Sexual Victimization (OSV), both as perpetrators and victims [11]. Some studies (i.e. [11, 12]), have identified positive associations between the three Dark Triad traits (i.e., Machiavellianism, narcissism, and psychopathy) and sexting behaviors. Resett et al. [4] proposed a model for predicting sexting behavior based on dark personality traits and emotional difficulties. Their findings revealed that high levels of dark personality traits, lower levels of anxiety, and elevated depression scores were significant predictors of engagement in sexting behavior [4]. Additionally, there is a well-documented link between sexual narcissism and a lack of sexual empathy, both of which contribute to OSA, including experiences of sexting victimization [13].

The research on personality traits and their correlation with OSA has yielded varied insights. For instance, Pineda et al. [11] reported that psychopathy demonstrates limited predictive efficacy in both the perpetration and victimization of OSV. However, the broader literature presents inconsistencies in the association between psychopathy and OSV [14]. In contrast, a meta-analysis by Casale and Banchi's [15] identified a positive relationship between narcissism and specific online behaviors, including frequent photo uploads and engagement in sexting. Similarly, the sharing of explicit content and involvement in suggestive messaging have been positively associated with the Machiavellian and narcissistic traits of the Dark Triad [14, 16, 17]. Building on these findings, March and Wagstaff [16] observed that individuals with pronounced Machiavellian traits not only engage in frequent sexting but are also more likely to send unsolicited explicit images. This behavior appears to stem from the Machiavellian predisposition toward strategic manipulation of others and situations. Unlike narcissistic, psychopathic, or sadistic traits, which are characterized by admiration-seeking, callousness, and enjoyment of inflicting suffering, respectively, Machiavellianism uniquely aligns with behaviors that exploit others for strategic purposes [18–20].

1.1 Present study

While the relationship between personality traits and online sexual behavior is well-documented [11, 14, 15, 21], the specific association between the Dark Triad traits and sexting behavior remains underexplored. Given that sexting is a form of sexual communication, understanding its prevalence and implications is essential for contextualizing its significance within contemporary sexuality and interpersonal relationships.

The increased use of ICT's to engage in online sexual activities, form intimate relationships and explore sexuality has also amplified the need for robust measurement tools. However, there is only one instrument to be validated for the Portuguese population, apart from the sexting scale, the Sexting Questionnaire [22]. This instrument evaluates sexting by the frequency of a certain activity with a partner, friend, or online acquaintance [23]. While the sexting scale evaluates sexting behavior through erotic behavior (sensual and insinuating content) and pornographic behavior (greater exposure of the body) [5].

Given the limited research on this topic in Portugal, this study aims to address this gap by validating and describing the psychometric properties of the Sexting Scale for the Portuguese population, characterizing the prevalence of sexting behaviors, and exploring their potential associations with personality traits. Specifically, the objectives are to:

(i) validate and describe the psychometric characteristics of the Sexting Scale for the Portuguese population and, (ii) examine the relationship between sexting experience and Dark Triad personality characteristics.

2 Methods

2.1 Participants

Participants were selected conveniently; they were recruited by making the survey available on an online platform and sharing it across different social networks and email. Then selected based on the following inclusion criteria: being aged between 18 years and 25 years and having Portuguese or dual nationality (i.e., Portuguese and other). The initial sample of this study consisted of 364 participants, 35 of whom were excluded because they did not meet the inclusion criteria for the sample. The sample of the present study included a sample of 329 young adult Portuguese participants, 269 females (81.8%) and 55 male (16.7%) aged between 18 years and 25 years ($M=20.83$, $SD=1.992$). In which 323 (98.2%) had Portuguese nationality and 6 (1.8%) had dual nationality (Table 1).

2.2 Instruments

Sociodemographic questionnaire – It was developed to collect information on variables such as age, gender, and nationality.

Sexting – The Sexting Scale [5] is a 13-item self-report scale with a bifactorial structure, the first factor is designated as erotic sexting, and the second factor is designated as pornographic sexting. Responses are based on a 4-point Likert scale from 1 (never or nothing) to 4 (always or a lot). The scale presents a Cronbach’s alpha 0.86, therefore having a good internal consistency.

Dark Triad – The Dirty Dozen (D12) [24] is an instrument that assesses the presence of the traits of the Dark Triad constellation, i.e. Machiavellianism, narcissism, and psychopathy. D12 is a 12-item self-report, and responses can be 1 (strongly disagree) to 5 (strongly agree). The instrument has a Cronbach’s alpha of 0.72 and therefore has a satisfactory internal consistency. The items are divided into three traits, with four items indicating each trait. In our study the alpha was 0.81.

2.3 Procedure

Authorization was requested from the authors of the original scales for their translation. To adapt the “Sexting scale” to the Portuguese population, and as proposed by Hill and Hill [25], the scale was translated and back translated, respecting the structure of the original scales and the order of the items in the original version. The instrument was first translated by one of the bilingual researchers and then back translated by a bilingual professional with expertise in the field of psychology. The lexical and semantic aspects of the instruments were also checked and the final Portuguese version of the “Sexting

Table 1 Sociodemographic characterization of the sample

Baseline characteristic	n	%
Gender	269	81.8
Female	55	16.7
Male		
Nationality	323	98.2
Portuguese	6	1.8
Dual Nationality		

scale” was created. Data collection took place from January 6 to February 23, 2024, and was conducted online using the Qualtrics platform. The questionnaire was disseminated via social media. Participants who provided informed consent completed a brief sociodemographic questionnaire, followed by the study instruments.

2.4 Ethical considerations

The study was conducted in accordance with the Declaration of Helsinki and approved by the Ethics Commission for Social and Human Sciences Research of the University of Minho (CEICSH 130/2023). Before filling in the questionnaire, a brief description of the study’s objectives was given, as well as the inclusion criteria (aged 18–25 years old). Confidentiality, the anonymity of the data, the voluntary nature of the involvement, and the option to withdraw from the study were also stressed. In addition, an informed consent form was presented, and participants could only proceed once they expressed their agreement. All participants provided consent for the publication of the data. Given the sensitive nature of the research at the end of completing all the instruments, participants were provided with support lines in case they felt any discomfort.

2.5 Data analysis

Data analysis was performed using the statistical software SPSS Statistics 29.0. Descriptive statistics (means, standard deviation, and frequencies) were used to characterize the sample. Subsequently, the sample was tested for normality and a distribution was found that did not follow the normal model according to the Kruskal–Wallis test [26].

Procedures were carried out to ensure strict control of all the measures obtained, by studying the internal consistency coefficients of all the scales and sub-scales, through the results of Cronbach’s alpha, with values equal to or greater than 0.70 being considered acceptable [27].

Exploratory Factor Analysis (EFA) was conducted to examine the construct validity of the instrument, followed by Confirmatory Factor Analysis (CFA). Given that this scale was originally developed for a Spanish population, the EFA was performed to assess its behavior and characteristics within the Portuguese population, considering potential cultural, linguistic, or contextual differences. Association tests were also carried out to verify divergent and convergent validity. For convergent validity, the sexting scale was compared to the narcissism factor of the D12, and for divergent validity, was compared to the psychopathy factor of the D12.

Prevalence analyses of sexting were also carried out and the sexting variable was coded. Up to a total value of 13 was coded with the presence of no behavior of sexting (no), and total values from 14 upwards were coded with at least the presence of one behavior of sexting (yes). Spearman’s correlation coefficients were used to test hypotheses ii) and iii) of this study.

3 Results

3.1 Exploratory factor analysis—sexting scale

The KMO measure yielded a value of 0.86, indicating a good fit of the sample for principal component analysis, ensuring its feasibility, while Bartlett’s test of sphericity returned a statistically significant value ($\chi^2=2257.94$, $p<.001$), demonstrating that the intercorrelation matrix is significantly different from the identity matrix regarding the sexting scale.

In our study, three factors emerged for the sexting scale, five items emerged in factor one, four in factor two, and four in factor three. The first factor explained 39.54% of the variance, the second factor explained 19.29%, and the third factor explained 9.73%. Cumulatively, the three factors explained 68.56% of the variance. Therefore, despite the original scale having only two factors, we proceeded with the three factors, naming them: erotic sexting (factor one), pornographic sexting (factor two), and romantic sexting (factor three).

3.2 Confirmatory factor analysis—sexting scale

A CFA was conducted to find a model that better fit the data. Initial analyses confirmed that the assumption of multivariate normality was met ($Ku_{mul}=4.375 < 10$) [28], using the maximum likelihood method. Subsequently, a chi-square test was performed ($\chi^2 = 168.40$, $p < .001$). The model is depicted in Fig. 1 and comprises three major factors. We then proceeded to analyze the Goodness-of-Fit Index (GFI), Normed Fit Index (NFI), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA) values to assess the model fit. Covariances between errors were introduced (see Fig. 1) to better fit the data, as the RMSEA values were above 0.1, which is considered unacceptable [29]. After these adjustments, the GFI, NFI, CFI, TLI, and RMSEA values were 0.930, 0.927, 0.950, 0.933, and 0.076, respectively, indicating acceptable fit (values above 0.90 for GFI, NFI, CFI, and TLI, and between 0.05 and 0.10 for RMSEA) [29].

In Fig. 1, the correlations between factors are displayed, showing positive correlations of 0.28 between factors one and two, 0.77 between factors one and three, and 0.17 between factors two and three. Additionally, the standardized factor loadings of the respective factors are presented.

3.3 Factor weights and correlations between factors of the sexting scale

3.3.1 Validity study of the sexting scale

Due to the lack of normality of the sample, spearman's correlations were carried out to assess convergent validity. The total score of the sexting scale was significantly and positively correlated ($r_s = 0.354$, $p < .001$) with the score of the narcissism factor of the D12.

Concerning the divergent validity of the sexting scale, spearman's correlations were performed between its total and the psychopathy factor of the D12. The results show no significant correlation ($r_s = 0.026$, $p = .616$) between the sexting scale and the psychopathy factor, thus showing that the measured constructs are independent.

3.4 Internal consistency

In the sample of the present study, a Cronbach's alpha value of 0.86 ($N = 329$) was obtained for the sexting scale, specifically 0.87, 0.84, and 0.79 for the erotic sexting, pornographic sexting, and romantic sexting subscales, respectively, indicating good internal consistency [27], with a mean of 20.76 ($SD = 5.34$) for the total scale.

3.5 Sexting prevalence

Out of the 329 participants who completed the study, 255 (94.8%) of the women admitted to engaging in at least one behavior of sexting, and 47 (85.5%) of the men admitted to engaging in at least one behavior of sexting. The type of sexting in which both genders

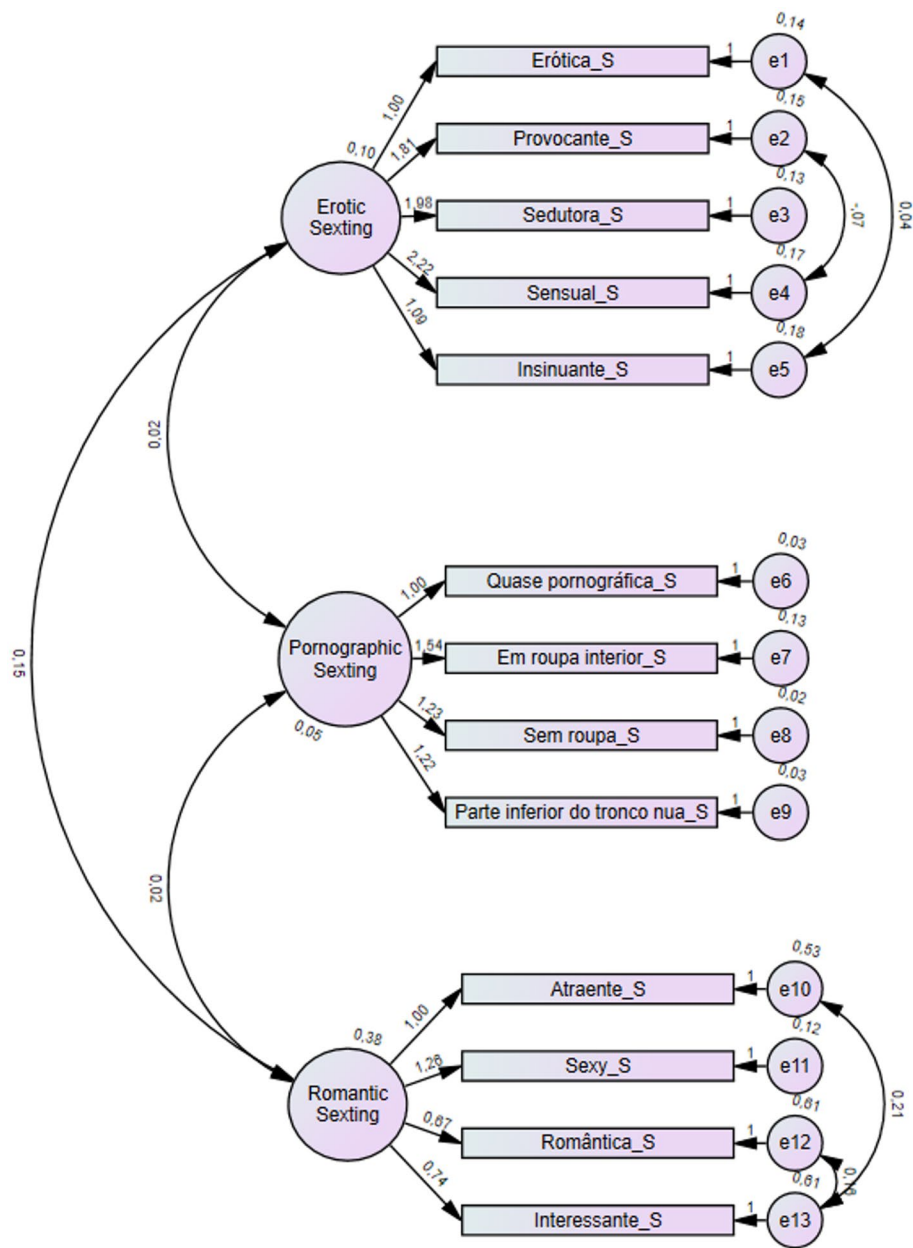


Fig. 1 Factor weights and correlations between factors of the sexting scale

were more involved was romantic sexting, with 255 (94.8%) of the women and 46 (83.4%) of the men admitting to engaging in at least one act of romantic sexting (see Table 2).

3.6 Association between sexting and the dark triad

Table 3 describes the bivariate analyses conducted to examine the relationship between the variables: sexting, narcissism, psychopathy, and Machiavellianism. The results obtained reveal positive and significant correlations among all study variables, except for the psychopathy variable (see Table 3).

Table 2 Prevalence of sexting

		Gender			
		Female		Male	
		<i>n</i>	%	<i>n</i>	%
Sexting	No	14	5.2	8	14.5
	Yes	255	94.8	47	85.5
Erotic Sexting	No	144	42.4	29	52.7
	Yes	155	57.5	26	47.3
Pornographic Sexting	No	255	83.6	43	78.2
	Yes	44	16.4	12	21.8
Romantic Sexting	No	14	5.2	9	16.4
	Yes	255	94.8	46	83.4

Table 3 Association between sexting and the dark triad

	1	2	3	4
1.Sexting				
2. Narcissism	0.354**			
3. Machiavellianism	0.198**	0.478**		
4.Psychopathy	0.026	0.054	0.385**	

Note:** $p < .001$

4 Discussion

The objectives of this study were to validate and describe the psychometric characteristics of the Sexting Scale for the Portuguese population, characterize the prevalence of sexting, and examine its potential association with personality traits.

The EFA conducted in this study was based on the original study by Hernández and Matero [5]. Our findings indicate that the Sexting Scale exhibits a predominantly homogeneous structure within the Portuguese sample, resulting in three distinct factors. This contrasts with the original study [5], which identified only two factors. The scale demonstrated acceptable reliability, with a Cronbach's alpha of 0.86, supporting its adequacy in meeting fidelity criteria. The three factors identified in our study explained a greater percentage of the variance (68.56%) compared to the two factors found in the original study (55.58%).

Subsequently, a CFA was performed to validate the factor structure of the underlying theoretical model observed in the EFA. The analysis supported a three-factor model: erotic sexting, pornographic sexting, and romantic sexting, which were significantly intercorrelated. The erotic sexting factor retained items related to sexual and sensual behaviors, consistent with the original study. This included the following items, "I choose photos to post on social networks where I see myself as a person erotic", "I choose photos to post on social networks where I see myself as a person provocative", "I choose photos to post on social networks where I see myself as a person seductive", "I choose photos to post on social networks where I see myself as a person sensual" and "I choose photos to post on social networks where I see myself as a person insinuating". The pornographic sexting factor included the same items as in the original study. The third factor that emerged was romantic sexting, which included the following items: "I choose photos to post on social media where I see myself as attractive", "I choose photos to post on social media where I see myself as sexy", "I choose photos to post on social media where I see myself as interesting", and "I choose photos to post on social media where

I see myself as romantic". The emergence of the romantic sexting factor may reflect the normalization and romanticization of social media in interpersonal relationships. Sexting is often perceived among young people as a consensual and normalized form of sexual expression and intimacy, as well as a societal indicator of closeness in romantic or sexual interactions [2, 30]. The very acceptable EFA and CFA values of the sexting scale support the use of this instrument to analyze sexting behaviors [29].

To assess the convergent validity of the Sexting Scale, we compared it with a factor measuring narcissism. Statistically significant correlations were obtained between the narcissism factor and the sexting scale, which means that as the presence of narcissistic traits increases, so do sexting behaviors. These findings align with previous research [14, 16, 17]. Indeed, Casale and Banchi [15] meta-analysis has demonstrated a positive correlation between narcissism and certain internet behaviors, such as frequent photo uploads and sexting. This relationship may be explained by the fact that sexting is an OSA, and narcissistic individuals often engage in OSA to fulfill their need for idealized companions and images [13]. Furthermore, narcissism has been positively associated with social media use and internet addiction [31, 32].

The findings also support the discriminant validity of the Sexting Scale, as evidenced by the non-significant associations with the psychopathy factor. This aligns with existing literature, which highlights inconsistencies in the relationship between psychopathy and OSA [14]. More particularly, Pineda et al. [11] concluded that psychopathy exhibits limited predictive efficacy in sexual-erotic behavior. This may be explained by the fact that OSA, like sexting behaviors are a new normal sexual activity rather than a problematic conduct [33].

In conclusion, the Sexting Scale demonstrates acceptable internal consistency, along with robust convergent and discriminant validity values [29]. This instrument offers significant utility by assessing not only erotic and pornographic sexting but also romantic sexting, which reflects contemporary relationship dynamics among young people. However, further studies are warranted to explore its applicability across diverse populations and cultural contexts.

The analysis of the prevalence of at least one sexting behavior resulted in rates of 94.8% and 85.5% for women's and men's, respectively. These findings surpass the prevalence of sexting behaviors reported in other studies [1, 4, 34]. The discrepancies between the prevalences can be explained by the sample characteristics and the specificities of the instruments used in each study. The predominantly female composition of our sample likely contributed to the observed gender differences in sexting behaviors. Research suggests that women often engage more in online social connections and tend to report higher levels of self-esteem in such interactions [35], which may facilitate their participation in sexting activities. Furthermore, societal norms and cultural shifts may have played a role in altering the dynamics of gender and sexting. Other factors, such as relationship status and comfort with digital communication, could also contribute to these gender differences and deserve further investigation. The most prevalent type of sexting in our sample was romantic sexting, strengthening the hypothesis of its use and normalization in relationships as a form of online sexual behavior and relationship-building [2, 29]. This is somewhat worrying considering ICT's important role in young people's lives today and how they interact with it. In addition, since our study was conducted

retrospectively, asking participants to recall their experiences before the age of 18 may also have an influence.

As previously discussed in the context of convergent and divergent validity, the relationships between sexting behaviors and the Dark Triad personality traits were analyzed. The findings reveal a significant positive correlation between narcissism and sexting behaviors, with this being the strongest association among the Dark Triad traits. Notably, the sexting scale employed in this study includes items such as “I choose photos to post on social media where I see myself as attractive,” “I choose photos to post on social media where I see myself as sexy,” and “I choose photos to post on social media where I see myself as romantic.” These items, especially those linked to romantic sexting, suggest that the quantity of likes or positive feedback on social media acts as a secondary form of emotional reinforcement. This pattern indicates that individuals with higher narcissistic tendencies may engage in sexting to bolster their self-image and satisfy their drive for admiration. While sexting itself may not involve public evaluation directly, the social networking platforms where these behaviors often occur provide opportunities for self-promotion, thereby fulfilling the narcissistic need for self-admiration and external validation [33]. Sexting, in this context, may serve as an extension of self-presentation, driven by the rewarding effect of perceived approval or desirability, which aligns with narcissistic traits. Supporting this, contemporary adolescents and young adults are reportedly less empathetic and more self-conscious about their appearance and social image [36].

In contrast, no significant correlation was observed between psychopathy and sexting behaviors. However, a weak positive correlation emerged between Machiavellianism and sexting behaviors, indicating that as Machiavellian traits increase, so too does engagement in sexting. These findings highlight the relevance of personality dimensions in understanding digital behaviors such as sexting, particularly within a social and interpersonal context.

It is worth emphasizing that this study has some limitations that should be considered to better contextualize its results and implications. Firstly, we would highlight the characteristics of the sample, the preponderance of females, and the limited age range, which prevents the results from being generalized to all national cases. Furthermore, the use of self-report questionnaires, as well as the fact that our study was conducted retrospectively, asking participants to recall their experiences when they were children and young people, presents some limitations. A potential response bias on the part of the participants, due to the influence of social pleasantness or possible memory biases, could compromise the validity and reliability of the data. Future studies should include more men in their sample to promote knowledge in this field, as well as include participants of older ages to guarantee the generalizability of the results. Furthermore, it is recommended that future studies incorporate multiple sources of data, such as behavioral observations or third-party reports, to complement self-report measures. In addition, the development of longitudinal studies is suggested for a more in-depth understanding of the phenomenon of sexting and the personality characteristics that underlie online sexual risk behavior. These longitudinal studies allow for an analysis over time, providing a more complete view of the associations. In this way, it would be possible to capture the evolution of these phenomena over time and provide valuable insights for more effective interventions and prevention policies.

5 Conclusion

This study tries to characterize the prevalence of sexting and its potential association with personality traits. Therefore, provided a significant contribution to a deeper understanding of the topic of problematic ICT use, namely sexting behaviors. More specifically, it made it possible to analyze the prevalence of sexting behaviors, as well as to investigate the association of Dark Triad personality traits with these problems. It also validated one instrument, the sexting scale, for the Portuguese population.

Despite the limitations mentioned above, this study contributes with the prevalence of sexting among young adults in Portugal, informing preventive and intervention strategies addressing internet-related risks. Additionally, it is hoped that this research will encourage further investigations into these phenomena within the Portuguese context.

To prevent non-consensual sexting, it is crucial to develop campaigns, awareness-raising initiatives, and programs that alert the population to the issues of online violence and online sexual behavior. The programs should reach the widest and earliest possible target audience. To be effective, in addition to targeting interventions directly at children and young people, these programs must include initiatives aimed at parents, offenders, and Internet-based technology-related companies, to make sure that online spaces are secure [36, 37].

It is important to note that there is a gap in Portugal in terms of the existence of intervention and prevention programs in the area of online sexual behavior, which aim to intervene directly with both victims and perpetrators. It is, therefore, necessary to promote the implementation of intervention programs that focus on direct care and support for both victims and perpetrators of this type of behavior. As well as the development of prevention initiatives aimed at effectively combating online risks. These programs must be developed and adapted according to the specific cultural and social characteristics of the Portuguese context, in order to meet the needs and demands of the local population. In fact, as mentioned by Chorpita [38] comprehensive strategy to deter violent and risky online conduct likely needs a range of treatment options, such as interventions with different durations, structures, and levels of intensity.

Author contributions

MC conceptualizes the study. Material preparation and data collection: MC. Data analysis: MC, CG. The manuscript was written by MC. CG and SC reviewed and edited the manuscript.

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Data availability

The study data is available from the corresponding author upon request. Declarations Ethics approval and consent to participate in the present studies were approved by the Ethics Commission for Social and Human Sciences Research of the University of Minho (CEICSH 130/2023) and was conducted in accordance with the Declaration of Helsinki. Informed consent was obtained from all individual participants included in the studies.

Declarations

Ethics approval

Declarations Ethics approval and consent to participate in the present studies were approved by the Ethics Commission for Social and Human Sciences Research of the University of Minho (CEICSH 130/2023) and was conducted in accordance with the Declaration of Helsinki.

Consent to participate

Informed consent was obtained from all individual participants included in the studies. Patients signed informed consent regarding publishing their data.

Authorship

I confirm the corresponding author has read the journal policies and submit this manuscript in accordance with those policies.

Consent to publish

Not applicable.

Competing interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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