Sending of Unwanted Dick Pics as a Modality of Sexual Cyberviolence: An Exploratory Study of its Emotional Impact and Reactions in Women

Abstract

The sending of sexually explicit images by men to women without prior request, a practice commonly referred to as sending or receiving a "dick pic", is a fairly common manifestation of sexual cyberviolence that has grown in recent times. As research on this type of sexual cyberviolence is limited, the current study analyzed the prevalence of this phenomenon in a sample of 347 Spanish women between 18 and 30 years of age, studying the factors that influence the emotional impact reported by women if they received an unsolicited dick pick (using a hypothetical scenario) and exploring the various coping strategies that women would use in that situation. Results showed a significant prevalence of this type of cyberviolence in the sample, as 48.1% of the participants had received an unsolicited dick pic from an unknown man at some point. Women with lower levels of hostile sexism – but not of benevolent sexism – reported a higher depressed and angry/annoyed emotional impact of the sexual cyberviolence scenario. This was also the case for women with a less conservative political ideology, with less religious beliefs, as well as those women who perceived that their female friends receive this type of images frequently (descriptive norm) and who perceived that their female friends are less accepting of these situations (injunctive norm). In addition, from the strategies presented to the participants to cope with this situation of sexual cyberviolence, it was observed that a significant percentage of women would choose strategies, such as talking about the incident with other people and blocking the sender's access. Yet, fewer women would employ effective strategies, such as reporting the perpetrator's profile to the managers or administrators of the social network or reporting the incident to the police. This study is one of the first studies in Spain that addresses this new form of sexual cyberviolence

against women by unknown men and suggests that, in online social networks, women experience the same situations of abuse, harassment and sexual objectification that they have faced offline in everyday life. Therefore, more work needs to be done to raise awareness and try to prevent these situations, while also providing more support to these women so that they can adopt effective coping strategies.

Keywords: Dick pics; Sexting; Cyberviolence against women; Sexism; Social norms

Introduction

New information and communication technologies have conquered our lives in just a few decades. These technologies give us great support in our everyday life and facilitate our personal, social and work-related relationships, which brings us closer to people and places. However, digital technology has also brought certain negative, previously non-existent risks (for a review, see Albahar & Almalki, 2019). In fact, it has transformed and updated the ways in which violence can be inflicted in interpersonal relationships (Aghtaie et al., 2018; Dunn, 2020; Fernet et al., 2019). Certain technologies can be used to perpetuate situations of control (Burke et al, 2011; Dragiewicz et al., 2019; Sánchez-Hernández et al., 2020) and social inequality (Harris, 2020), and to exert new and more sophisticated forms of interpersonal violence (for a review, see Powell & Henry, 2017; Rodríguez-Domínguez et al., 2020). The particular feature of these forms of violence is that it can be perpetrated in an immediate, sudden and unexpected way, making it easier for perpetrators to approach potential victims due to the wide range of opportunities provided by the Internet and virtual spaces, and more difficult for victims to avoid it. Consequently, the psychological and personal effects of these forms of violence facilitated by these technologies are very damaging for the victims, since the virtual space has no physical limits or barriers (Kellerman et al., 2013) and one never knows when this violence will stop. This leaves the victims in a situation of helplessness.

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Digital technology and gender-based violence

It is stated that being a woman increases the chances of experiencing violence in its different manifestations, including violence facilitated by digital technology (e.g., Henry et al., 2020). According to Freeman (2020), one of the most harmful behaviors of gender-based violence against women perpetrated through digital channels is sexual cyberviolence. There is evidence that individuals of all sexual orientations experience sexual cyberviolence (Marcotte et al., 2020). However, empirical studies conducted so far agree that women most likely to be victims of this type of violence facilitated by digital technologies (Henry et al., 2020) and men are most likely to be the perpetrators using control and domination over women using technology (Dunn, 2020; Harris, 2020; Harris & Woodlock, 2019). As a result, women experience negative responses or feelings (Marcotte et al., 2020) and severe consequences for their mental health (Powell et al., 2020), such as lower self-esteem, higher anxiety and depression, post-traumatic stress disorder and suicide (Fernet et al., 2019; Klettke et al., 2019). Research on sexual cyberviolence against women facilitated by digital technology is limited and therefore, the current study focused on this phenomenon.

Sexual cyberviolence can take different forms (Dunn, 2020; Freeman, 2020). Currently, the most common forms are the phenomenon known as "revenge porn", or non-consensual distribution of intimate images, usually by an ex-partner (Walker & Sleath, 2017, for a review); "deepfake pornography", or the dissemination of images of the victim that have been edited by superimposing her face on the body of a porn actress (Albahar et al., 2019); and the dick pic phenomenon (Amundsen, 2021; Marcotte et al., 2020). The dick pic phenomenon is currently attracting the attention of scientists and the media due to its increasing prevalence in the population. This highly widespread phenomenon consists of sending unsolicited photographs of male genitalia. Research

shows that women of all sexual identities receive unsolicited dick pics (Marcotte et al., 2020). These women predominantly experience negative responses or feelings to these unwanted sexual images of male genitalia (Marcotte et al., 2020). Studies also show that these sexual images are mostly sent to adult women and teenage girls (Amundsen, 2021; Hayes & Dragiewicz, 2018; Ringrose et al., 2021; 2022). So, according to the World Health Organization, the women are the primary target of violence inflicted both offline and via technological means (Harris, 2020), which affects 1 in 3 women in the world (World Health Organization [WHO], 2021). To illustrate, according to a macro-survey conducted by the European Union Agency for Fundamental Rights (FRA) in 2014, one in 10 women reported having experienced some form of cyberviolence from the age of 15. In addition, 23% of women reported having experienced some form of online abuse, among which the most frequent was receiving unsolicited sexual material such as dick pics. Overall, research shows that women who receive dick pics perceive these contents as intrusive and intimidating (Mandau, 2020), as an unpleasant act of aggression and as a male attempt to exert control over women (Amundsen, 2021).

Sexual cyberviolence directed to women: emotional impact and reactions

Research has established that receiving dick pics has an emotional impact on recipients, especially when these pictures are unwanted (Mandau, 2020; Marcotte et al., 2020; Walker & Sleath, 2017). This triggers feelings of sadness, anger, annoyance, humiliation and embarrassment, among others (Powell, 2010). Hayes and Dragiewic (2018) highlight that receiving unwanted dick pics has impacts and implications for women that are much more serious than those already discussed: specifically, women decrease their perception of safety in public spaces and act as a reminder of their status as potential victims of sexual assault. This is consistent with experimental studies in social psychology that have shown the negative emotional impact on women of being made

aware of the possibility of experiencing sexual violence, such as rape (Bohner & Lampridis, 2004; Bohner et al., 1999; Bohner et al., 1993). Bohner and Lampridis (2004) experimentally demonstrated the emotional impact on women of this salience of rape. According to their findings, the simple fact that a woman expected to have a face-to-face conversation with a rape victim (as opposed to a woman with cancer or a student) made her aware of the possibility of being raped and was enough to cause a dramatic decrease in her self-esteem and emotional well-being. These effects were greater if the women surveyed also showed a low agreement with stereotypes and myths about sexual assault (i.e., low rape myth acceptance), compared to women who agreed with rape myths and therefore relied on the false belief that rape only happens to "some women" who do not act in accordance with their gender roles. In other words, the negative emotional impact is greater when women are reminded of the possibility of being potential rape victims, and that any woman can potentially be a victim of rape simply because of being female. In line with this finding, women may experience a more negative impact when they are exposed to an unsolicited dick pic scenario and are aware of the possibility of being a sexual cybervictim.

Certain variables may also influence the reactions of women and their ensuing actions when receiving unsolicited dick pics as an act of sexual cyberviolence. The empirical studies that have addressed the variables that influence the social perception of both offline and online violence against women are particularly relevant. This is because they analyze the impact of these variables on social attitudes and reactions towards the victims. More importantly, it is also because they explore the potential impact of these variables on the very actions that women may take to deal with this type of violence. In this regard, the effect of numerous variables has been analyzed (for a review, see Temkin

& Krahé, 2008), and there has been a particular interest in sexist ideology (for a review, see Glick & Fiske, 1996; 2011).

Sexism was initially conceptualized as a reflection of men's hostility towards women, but it was soon understood that if sexism were composed only of hostility, it would not have survived to the present day because of the rejection it would generate in women. Glick and Fiske (1996) proposed the Ambivalent Sexism Theory to highlight that sexism is not only composed of hostility towards women (Hostile Sexism - HS). They argue that it also includes another component (Benevolent Sexism - BS) that refers to "a set of interrelated attitudes towards women that are sexist in terms of viewing women stereotypically and in restricted roles but that are subjectively positive in feeling tone" (Glick & Fiske, 1996, p. 491). Benevolent sexist attitudes are protective and idealize women who behave in a manner consistent with conventional female roles (i.e., traditional wives); by contrast, sexist attitudes are directed to women who challenge men or usurp their power (Glick & Fiske, 1996).

Empirical studies have repeatedly shown that both components are correlated (Glick et al., 2000) and are also related to different types of offline and online violence against women (e.g., Durán & Rodríguez-Domínguez, 2020; Glick & Fiske, 2011). For example, regarding offline violence, studies show that HS predicts rape proclivity (Abrams et al., 2003) and justification of rape (Durán et al., 2010), and BS predicts victim blame (Durán et al., 2010) in rape situations (for reviews, Glick & Fiske, 2011; Temkin & Krahé, 2008). As regards online violence towards women, males' hostile sexist attitudes predict cyberbullying of their girlfriends (Martínez-Pecino & Durán, 2019). For instance, BS and HS predict the justification of situations of sexual cyberviolence towards victims who are considered transgressive of gender roles (Durán & Rodríguez-Domínguez, 2020).

According to the literature, women's own sexist attitudes also have a negative influence on their behavior. For example, Moya et al. (2007) found that women who agreed with benevolent sexist precepts tended to accept discriminatory restrictions by their intimate partners. In line with this, Durán et al. (2014) showed that women's own benevolent sexist attitudes influenced their less active responses when they were exposed to hypothetical situations of sexual violence perpetrated by benevolent sexist partners. That is, women's benevolent sexist attitudes tend to weaken their reactions to violence. In this regard and in line with the findings of these studies on sexual violence, it might be assumed that the sexist attitudes of women can influence their reactions to acts of sexual cyberviolence.

Another variable whose relationship with discrimination and offline violence has been explored is social norms. Mulla et al. (2019) revealed a relationship between the prevalence of behavior in the environment, known as "perceived descriptive norms", and the perpetration of intimate partner violence. Specifically, they found that youth who perceived higher rates of perpetration of this violence among their same-gender friends had a greater likelihood of perpetrating intimate partner violence. They also found that this relationship was mediated by the acceptance of this violence by peers, known as "perceived injunctive norms", which in turn predicted a greater personal acceptance. Additionally, they observed that higher levels of perceived descriptive norms in participants were associated with higher levels of perceived injunctive norms and personal acceptance, which helped predict the perpetration of this type of violence. Therefore, according to these findings, social norms condition the behavior of individuals, especially when there is a strong group identity, given that acceptance and belonging to a group is likely to act as a social reinforcement (Spears, 2021). This influence of social norms is established by the overestimation we make of the group when faced with a risky

behavior, which entails a greater probability of reproducing it (Berkowitz, 2005). Likewise, it is also logical to expect social norms to play a relevant role in the emotional impact and the reactions of women faced with acts of cyberviolence, depending on how these women estimate the phenomenon in their environment and perceive the acceptance of these acts by their peers.

Finally, other variables that have also been studied because of their relationship with offline discrimination and violence include political tendencies (Christopher & Mull, 2006), religious ideology and age, among others (for a review, see Temkin & Krahé, 2008). For example, adherence to a more conservative political ideology has been identified as a predictor of humiliation and more negative attitudes towards victims of gender-based violence (Temkin & Krahé, 2008). Moreover, according to Manoussaki and Veitch (2015), individuals who reported greater adherence to a conservative ideology tended to perceive crimes of violence against women not as crimes in themselves, but as a consequence of women behaving in a suggestive or provocative manner. Given their relevance in the study of offline violence, these variables were also taken into account in our study to analyze their influence on the emotional impact and reactions of victims of sexual cyberviolence.

Objectives and hypotheses

Given that the dick pic phenomenon is a relatively recent manifestation of sexual cyberviolence, its study is still at its early stages, especially in countries like Spain. Because of this, it is necessary to pay particular attention to this type of violence and its potential impact on recipients. This study aimed to investigate the phenomenon of sending unsolicited dick pics as a manifestation of sexual cyberviolence facilitated by digital technology focusing on women, the primary target of violence in all its manifestations (WHO, 2021). Keeping this in mind, this study was undertaken with three

key objectives: 1) studying the prevalence of receiving an unsolicited dick pic in a sample of Spanish female participants, 2) analyzing the factors that may influence the emotional impact (i.e., depressed or angry/annoyed) reported by young women faced with a fictitious scenario of receiving a dick pic from an unknown man, and 3) exploring which actions women would take to deal with such a situation (i.e., blocking the harasser; sharing the dick pic; telling someone in their environment what happened; reporting the incident to the administrators of the social network; or reporting the incident to the authorities).

Regarding reactions to receiving unsolicited dick pics, research has shown that women of all identities predominantly experience negative responses to these unwanted images of male genitalia, with only a minority experiencing positive, neutral or humorous reactions (Marcotte et al., 2020; Ringrose & Lawrence, 2018). Specifically, this study aimed to explore depressive emotional impact in women because of the relationship found between cybersexual violence and depressive symptoms (Cripps & Stermac, 2018). It also aimed to examine the angry/annoyed reaction because of its particular relationship with contexts of sexual violence (for a review, see Giner-Sorolla & Russell, 2009). In these situations, anger arises if an individual feels that a degrading offence has been committed against him or her (Lazarus, 1993); as a result, he/she will try to correct the situation. In particular, the fact that a woman may feel angry/annoyed in the context of an act of sexual cyberviolence might lead her to take the necessary and expected actions to curb the situation. Women's actions after hypothetically receiving the unsolicited sexual image were selected because, with the exception of the action of sharing the dick pic received, they can all be considered active coping strategies against acts of cyberviolence.

Based on the literature and objectives, we expected to find: higher levels of depressed emotional impact in women with lower levels of HS (Hypothesis 1); higher levels of angry/annoyed emotional impact in women with lower levels of HS (Hypothesis 2); higher levels of depressed emotional impact in women with lower levels of BS (Hypothesis 3); higher levels of angry/annoyed emotional impact in women with lower levels of BS (Hypothesis 4); higher levels of depressed emotional impact in women with a higher perceived prevalence in the environment of receiving unsolicited dick pics from an unknown male (Hypothesis 5); higher levels of angry/annoyed emotional impact in women with a higher perceived prevalence in the environment of receiving unsolicited dick pics from an unknown male (Hypothesis 6); higher levels of depressed emotional impact in women with a lower perceived acceptability of the cyberviolence situation by peers (Hypothesis 7); and higher levels of angry/annoyed emotional impact in women with a lower perceived acceptability of the cyberviolence situation by peers (Hypothesis 8). We also explored differences related to participants' sexual orientation, political ideology and religious inclination, as well as the various coping strategies when faced with such situations.

Method

Participants

Initially, 365 women took part in the study. After applying the inclusion criteria (i.e., being aged between 18 and 30 years and giving informed consent), the total sample consisted of 347 women ($M = 21.61$, $SD = 2.88$), of whom 98.6% were Spanish citizens and 86.7% were university undergraduate or graduate students. A total of 75.8% participants reported having a heterosexual orientation, 21% stated being bisexual, and 3.2% claimed to be homosexual.

Instruments

We designed an online questionnaire with the following measures and instruments:

Sociodemographic variables. A series of items were created to collect sociodemographic data namely age, nationality, occupation (e.g., employee, university student) and sexual orientation (i.e., heterosexual, bisexual, homosexual, other). Political ideology was evaluated using a 7-point response scale, from 1 (Extreme left) to 7 (Extreme right), as was religious inclination (1 - Not religious at all, to 7 - Very religious).

Hypothetical dick pic scenario. A sexual cyberviolence scenario was designed representing the case of a young girl who, while browsing the Instagram social network, receives a direct message from a male stranger. In this message, the man sends a sexually explicit photo showing his genitals (i.e., a dick pic), along with a text indicating that he wants to get to know her better.

Depressed and annoyed impact. To assess the emotional impact on women of receiving an unsolicited dick pic (i.e., hypothetical dick pic scenario), two of the subscales of the Cybervictimization Emotional Impact Scale (CVEIS; Elipe et al., 2017) were adapted: the depressed impact subscale (i.e., tense/nervous; guilty; scared/afraid; lonely; ashamed; defenseless/helpless), and the annoyed impact subscale (i.e., angry/annoyed; irritable/in a bad mood; choleric/enraged). Both subscales were composed of a series of emotions that were to be rated according to the degree to which they were experienced/felt, using a 5-point Likert response scale ranging from 1 (Not at all) to 5 (Very much). Higher scores indicated higher emotional impact. The internal consistency of both subscales in this study was good ($\alpha = .83$ for depressed impact, and $\alpha = .82$ for annoyed impact).

Hostile and benevolent sexist beliefs. We used the short version of the Ambivalent Sexism Inventory by Glick and Fiske (1996), adapted and validated for the Spanish population by Rodríguez-Castro et al. (2009). This instrument presents statements about relationships between men and women and the role of each one based on gender inequality. It consists of two scales: hostile sexism (HS) and benevolent sexism (BS), with six items each and a 6-point Likert response scale, ranging from 0 (Strongly disagree) to 5 (Strongly agree). Examples of these items are: "Women seek to gain power by getting control over men" (HS) and "Men are incomplete without women" (BS). Higher scores indicate higher levels of sexist beliefs in the sample. The internal consistency obtained was good for HS ($\alpha = .82$) and adequate for BS ($\alpha = .72$).

Descriptive norm and injunctive norm. Two items adapted from Mulla et al. (2019) were designed to assess two norms: the descriptive norm, or perceived prevalence of the phenomenon in the participant's environment ("Please estimate the percentage of women or female friends in your environment who have received a photograph of this kind from an unknown man"), and the injunctive norm, or the participant's perception of the acceptability of the phenomenon by the peer group ("How acceptable do you think it is for your female friends to receive a photograph of this type from an unknown man?"). Both items had an 11-point Likert response scale. In Item 1, participants had to indicate a percentage between 0 (0%) and 10 (100%). In Item 2, responses ranged between 0 (Not at all acceptable) and 10 (Very acceptable). Higher scores showed a higher degree of both social norms.

Coping with the situation of receiving a dick pic. Five items were created to analyze the type of response that participants would have in a scenario such as that presented (i.e., receiving a dick pic from an unknown man). Item 1 referred to the action of blocking the harasser on the online social network (Block); Item 2 was a non-

recommended action, such as the subsequent dissemination of the photograph by the participant among her contacts (Spread); Item 3 was sharing what had happened with someone in her environment (Communicate); Item 4 was reporting the incident to the administrators of the online social network through which the sexual image was sent, such as Instagram (Report to administrators); and Item 5 was reporting the incident to the authorities (Report to authorities). All items had categorical responses (i.e., Agree; Do not know; Disagree).

Prevalence of dick pics. Two items were designed to determine the percentage of participants who had received a dick pic sent either by an unknown man or, alternatively, by a man with whom they had had or were having an intimate relationship ("Have you ever received a dick pic or photograph of a man's genitals sent by an unknown man / a man who was your formal or informal partner without having requested it yourself, as in the case described above?"). The items presented dichotomous responses (No, I have never received such a photograph/ Yes, I have received such a photograph).

Procedure

To conduct this cross-sectional study, an online questionnaire was created and then circulated between September and November 2020 via social networks and e-mails, using the Qualtrics online survey platform. Participation was anonymous and uncompensated, with an estimated duration of 15 minutes. Participants had to give their informed consent before completing the questionnaire, which was explained prior to its completion. They were informed about the possibility to withdraw from the study without negative consequences and no personal data were collected to guarantee the anonymity of the responses. Once presented with the questionnaire, participants were asked to provide their sociodemographic data and completed the ambivalent sexism inventory. Next, they read the hypothetical scenario and answered the items about emotional impact,

social norms and coping strategies. Finally, they indicated whether or not they had ever received an unsolicited dick pic. A favorable report was issued by the Bioethics Committee of Nuestra Señora de Valme University Hospital, Seville, Spain (internal code 0517-N-20) and by the Ethics Committee of the Universidad Loyola Andalucía, Seville, Spain.

Data analysis

The data were analyzed with SPSS software (version 26). The continuous variables of the study (i.e., depressed, annoyed, HS, BS, political ideology, religiosity, descriptive and mandatory norms) were analyzed using descriptive statistics, both for the complete sample and for two groups depending on sexual orientation: heterosexual vs. non-heterosexual (lesbian and bisexual). Differences between groups were analyzed applying Student's t-test for independent samples. In addition, multiple linear regression analyses were performed to analyze the predictors of depressed impact and annoyed impact, including the following factors: age, sexual orientation (0 - heterosexual; 1 - non-heterosexual), HS, BS, political ideology, religious inclination, descriptive norm and injunctive norm. We also estimated the frequency and percentage of participants who stated that they would carry out each of the proposed coping actions. Finally, we estimated the frequency and percentage of participants who had received a dick pic from a man (partner or stranger), also assessing the existence of percentage differences according to sexual orientation (heterosexual, bisexual, lesbian) by applying Pearson's Chi-square test. We estimated effect size following Cohen's interpretations (1988): Cohen's d for Student's t (.20 small; .50 medium; >.80 large), R^2 (.01 small, .10 medium, >.25 large) and Cramer's V (gl(2) = .07 small, .21 medium, >.35 large).

Results

Preliminary results

As shown in Table 1, participants generally reported higher levels of annoyed impact ($M = 2.69$, $SD = 1.14$) than depressed impact ($M = 1.67$, $SD = 0.81$) at the thought of receiving a dick pic from a male stranger as proposed in the hypothetical scenario. Although the level of sexist beliefs in the sample was surprisingly low compared to that of populations with similar characteristics, levels of BS ($M = 0.72$, $SD = 0.73$) were slightly higher than those of HS ($M = 0.53$, $SD = 0.72$). Regarding ideology, participants reported a greater tendency towards left-wing politics ($M = 2.16$, $SD = 1.45$) and non-religiousness ($M = 1.71$, $SD = 1.84$). Regarding descriptive norms, participants' perception of the prevalence of the phenomenon in their environment ($M = 3.56$, $SD = 3.04$) was much higher than their perception of the acceptance of this type of action by their peers ($M = 0.16$, $SD = 0.82$). In other words, although women perceive that these acts of cyberviolence are frequent in their environment, they also perceive that their acceptance by their peers is not as widespread.

Statistically significant differences were observed when analyzing the data according to sexual orientation. For instance, the levels of annoyed impact upon receiving a dick pic were lower in heterosexual women than in non-heterosexual women ($t = -2.70$, $p = .007$, $d = 0.35$). Heterosexual women, compared to non-heterosexual women, reported higher levels of HS ($t = 2.39$, $p = .018$, $d = 0.31$) and BS ($t = 2.02$, $p = .044$, $d = 0.25$). Moreover, heterosexual women reported a lower tendency towards left-wing ideologies ($t = 5.46$, $p < .001$, $d = 0.61$) and significantly higher levels of religiosity ($t = 5.45$, $p < .001$, $d = 0.58$), compared to non-heterosexual women. Finally, heterosexual women had lower scores in descriptive norm than non-heterosexual women, which was also statistically significant ($t = -2.53$, $p = .012$, $d = 0.33$).

--Table 1--

Emotional impact

Table 2 shows the multiple linear regression models used for determining the predictors of both types of emotional impact (i.e., depressed impact and annoyed impact) considered as dependent variables in this study.

First, regarding the depressed impact model, it was found that 14% of the variance of this variable was explained by the factors included ($F = 6.36$, $p < .001$). This model showed main effects of the following variables: age ($\beta = -0.15$, $t = -2.10$, $p = .036$), HS ($\beta = -0.14$, $t = -2.10$, $p = .036$), political ideology ($\beta = -0.14$, $t = -2.13$, $p = .034$), religious inclination ($\beta = 0.20$, $t = 3.19$, $p = .002$) and descriptive norm ($\beta = 0.22$, $t = 3.98$, $p < .001$). According to these effects, women who reported higher levels of depressed impact in the hypothetical situation of dick pic cyberviolence were those who were younger, had lower levels of HS, left-wing political tendencies, a higher degree of religiosity, and perceived a higher prevalence of the phenomenon of receiving dick pics from unknown men in their environment.

Second, considering annoyed impact as the dependent variable, results showed that 16% of the variance was explained by the factors analyzed ($F = 7.29$, $p < .001$). This analysis showed main effects of the following variables: HS ($\beta = -0.19$, $t = -2.80$, $p = .005$), political ideology ($\beta = -0.14$, $t = -2.23$, $p = .027$), religious inclination ($\beta = 0.16$, $t = 2.66$, $p = .008$), descriptive norm ($\beta = 0.23$, $t = 4.25$, $p < .001$) and injunctive norm ($\beta = -0.13$, $t = -2.44$, $p = .015$). In other words, the above-mentioned effects show that women who reported higher levels of annoyed impact were those who reported lower levels of HS, those who acknowledged having a political ideology closer to the left, a higher degree of religiosity, a higher perception of the prevalence of the phenomenon in their environment and also a lower perception of the acceptability of dick pic actions by their peers.

--Table 2--

Reaction strategies upon receiving a dick pic

Table 3 shows the various reaction strategies reported by participants after supposedly receiving a dick pic, as well as the percentage of participants who reported that they would use any given one of these strategies if they experienced a similar situation. We also analyzed whether there were differences in the mean scores of the main study variables (i.e., emotional impact, sexist beliefs, political ideology, religiosity and social norms) according to the use or non-use of each coping strategy. It is worth noting that 75.5% ($n = 262$) of participants reported that they would block the stalker on the social network. By contrast, 19% ($n = 66$) – especially those who felt higher levels of depressed impact ($t = 1.94$, $p = .005$, $d = 0.29$) and those who perceived less acceptance of these acts among their peers (injunctive norm) ($t = -2.76$, $p = .006$, $d = 0.19$) – would disseminate the photograph of the man among their contacts. Among participants, 76.7% ($n = 266$) – especially those with a lower degree of religiosity ($t = -2.29$, $p = .024$, $d = 0.32$) – reported that they would tell someone about the incident. Also, 56.5% of the women ($n = 196$) would report the incident to the social network administrators; this was especially the case among participants who reported higher levels of depressed impact ($t = 2.25$, $p = .025$, $d = 0.25$) and annoyed impact ($t = 3.38$, $p = .001$, $d = 0.37$), as well as higher scores in descriptive norm ($t = 1.96$, $p = .050$, $d = 0.22$). Finally, 29.1% ($n = 101$) would report the incident to the authorities, especially if they had reported higher levels of depressed impact ($t = 3.10$, $p = .002$, $d = 0.36$) and annoyed impact ($t = 2.48$, $p = .014$, $d = 0.29$).

--Table 3--

Prevalence of the dick pic phenomenon

Finally, participants were asked the question "Have you ever received a dick pic or photograph of a man's genitals sent by an unknown man / a man who was your formal

or informal partner without having requested it yourself?" to establish the prevalence of this phenomenon in the sample of female participants. As can be seen in Table 4, 72.9% ($n = 253$) of participants admitted that they had received this type of sexual image from a partner without previously requesting it; the number was higher among heterosexual participants ($n = 179$, 68.1% of the group of heterosexuals, 51.6% of the total sample of participants) than among bisexual participants ($n = 66$, 90.4% of the group, 19% of the total sample) and homosexual participants ($n = 8$, 72.7% of the group, 2.3% of the total sample). Additionally, 48.1% of participants ($n = 167$) acknowledged having received a dick pic from an unknown man; there was a higher intragroup percentage among homosexual women ($n = 8$, 72.7% of the group, 2.3% of the total sample) and bisexual women ($n = 48$, 65.8% of the group, 13.8% of the total sample) than among heterosexual women ($n = 111$, 42.2% of the group, 32% of the total sample).

--Table 4--

Discussion

The massive development of information and communication technologies and the specific characteristics of the Internet have turned digital media and social networks into essential elements in people's lives. They provide numerous opportunities for improving social interactions, but they also make it possible to exert digital control (Harris & Woodlock, 2019) or perpetrate cyberviolent behaviors, which are negative aspects (Dunn, 2020; Powell & Henry, 2017). Sending a dick pic to women without their consent, as a modality of gender-based sexual cyberviolence, is currently very prominent (Hayes & Dragiewicz, 2018; Marcotte et al., 2020). Hence, understanding women's emotions and responses to these unsolicited dick pics has important research and clinical implications.

This study is one of the first to address the phenomenon of dick pics in a sample of Spanish women. We analyzed both its prevalence and its emotional impact, as well as the reaction strategies of women in the hypothetical situation of receiving an unsolicited dick pic. Specifically, the prevalence data from this study showed that 48.1% of the women who participated reported having received an unwanted dick pic from a male stranger on some occasion; this percentage rose to 72.9% when the person who had sent the dick pic was a partner, without the woman having previously requested it. As can be seen from these data, the dick pic phenomenon is becoming increasingly prevalent among the female population, including in Spain.

Overall, the results of this study support the main hypotheses put forward. These findings suggest that the acts of sexual cyberviolence to which women are mainly subjected – represented in this study by the unwanted reception of dick pics sent by unknown men – have an emotional impact on women and, in parallel, on their reactions to situations of sexual cyberviolence.

Regarding the influence of sexist attitudes on the depressed and angry/annoyed emotional impact on women in the hypothetical situation of receiving a dick pic, results revealed a greater depressed and angry/annoyed emotional impact on women with lower levels of HS – but not of BS. This supported Hypotheses 1 and 2 of this study, but not Hypotheses 3 and 4. According to studies that have revealed a greater emotional impact on women when they are reminded of the possibility of sexual violence, especially when their levels of stereotypical attitudes towards women and violence are lower (Bohner & Lampridis, 2004) and, as expected, the depressed and angry/annoyed emotional impact reported by the participant sample was more significant in women with lower HS levels. That is, being confronted with a sexual cyberviolence scenario, such as receiving an unwanted dick pic from an unknown man, may have made it salient to participants that

they can become potential victims of any given mode of sexual violence just for being female. This happened particularly in less prejudiced women, that is, those who showed less agreement with hostile sexist precepts. On the other hand, in line with the findings of previous studies (Bohner et al., 1999; Bohner & Lampridis, 2004), women with higher levels of hostile sexist attitudes found their emotional well-being protected. In other words, these hostile sexist beliefs seem to somehow protect women from any negative emotional impact, given that these same hostile sexist precepts classify women into two groups: those who conform to traditional gender stereotypes (i.e., "good women") versus "transgressors", who therefore deserve sexist hostility. According to hostile sexist precepts, the latter group of women are more likely to experience violent acts since they may be considered to have transgressed their gender role.

Regarding the influence of social norms, our findings supported Hypotheses 5-8 of this study. Specifically, women who perceived a higher prevalence of the dick pic phenomenon in their environment (i.e., descriptive norm), and those who also reported a lower perceived acceptability of the dick pic situation in their environment (i.e., injunctive norm) reported higher levels of depressed and angry/annoyed emotional impact. As expected, social norms play a relevant role in the perpetration of violence (Mulla et al., 2019; Spears, 2021). They also play an important role in the depressed and angry/annoyed emotional impact on women of perceiving that these cyberviolent acts take place in their own environment and that they are not accepted by the group of women around them, as this study reveals.

Our findings also show the influence of social norms in the reactions of women when faced with a hypothetical situation of receiving an unsolicited dick pic. However, this influence is limited to two of the reaction strategies analyzed: blocking the person who sent the dick pic in the social network, when women perceive a lower acceptance of

these acts among the peer group in their environment (i.e., injunctive norm); and telling someone what happened when they perceive that there could be a higher prevalence of the phenomenon in their environment (i.e., descriptive norm). Although the relationship found between both variables and the two strategies mentioned above is important, no relationship was found with the rest of the action strategies proposed to women. As a result, future studies could explore this issue, for example, by conducting focus groups with women who could be asked openly what type of strategies they would use if they were victims of an act of sexual cyberviolence such as receiving a dick pic.

Regarding the reaction strategies reported by women after supposedly receiving an unsolicited dick pic, our study showed that 76.7% of participants would tell someone what had happened; a total of 75.5% of participants would block the harasser if they were confronted with this act of cyberviolence, whereas 56.5% would take more drastic actions such as reporting the incident to the administrators of the social network; finally, 29.1% of participants stated that they would report the incident to the authorities. Interestingly, although all of these strategies are aimed at curbing cyberviolent behavior, those that involve reporting the incident to the administrators of the social network and the authorities were the least likely to be used. However, these are precisely the strategies that would have an immediate effect on curbing cyberviolence and entail consequences for the perpetrators. This shows that, although society is making progress in its awareness of these acts of sexual cyberviolence, there is still much to be done. This makes it extremely necessary and urgent to implement educational programs aimed at raising awareness and preventing sexual cyberviolence.

Finally, we should highlight the results observed regarding the differences determined by sexual orientation. Non-heterosexual women indicated a higher level of annoyed impact than heterosexual women, although this was not a predictive factor for

this type of emotional impact according to the regression analysis performed. An explanation of these results could be that this group of women showed lower levels of benevolent sexism, a more left-wing ideology, less religiousness and greater prevalence of the phenomenon in their environment; all these factors have proved to be predictive of annoyed impact. Similarly, lesbian and bisexual participants perceived that a greater number of female friends had received an unsolicited dick pic (descriptive norm). Additionally, a higher percentage of these women, compared to the heterosexual women in the sample, had received this type of images. These findings are in line with evidence indicating that a greater number of non-heterosexual young people, whether female or male, compared to heterosexual young people, experience cyber sexual harassment (Inwards-Breland et al., 2022; Marcotte et al., 2020). These findings are also consistent with other evidence indicating that this group is more likely to send and receive sexual images and to receive pressure from another person to participate in sexting. Being female is also associated with having experienced this type of pressure more frequently (Van Ouytsel et al., 2021).

This research has certain limitations, which should be acknowledged to better interpret the results obtained. First, the characteristics of the female sample may affect the interpretation and generalization of the results. Specifically, participants were asked to imagine themselves in the situation of the protagonist of the proposed sexual cyberviolence scenario (i.e., receiving an unwanted dick pic) and answer the questions according to how they think they would feel or react. However, although we can have a fairly clear idea of what we would do in certain hypothetical situations, it is not the same to actually experience a situation as to imagine it. Consequently, responses may vary between a hypothetical situation and a real one. Future studies could replicate this study with a sample of women who actually received unwanted dick pics and can answer based

on their experience and not as a reaction to a hypothetical scenario. It might also be interesting to replicate this study in different countries to map the prevalence of the phenomenon and pool prevention and coping proposals.

Another potential limitation is related to the hypothetical scenario presented. We attempted to reproduce a typical unsolicited dick pic scenario using the information we have on this phenomenon. However, the description presented was brief to control for the effect of possible variables and only included information relevant to the conduct of this study. Real-life situations have many additional elements and there are other variables inherent to the individual women which could have an influence on responses. Finally, in line with the findings of recent studies (e.g., Marcotte et al., 2020; Ringrose & Lawrence, 2018), future studies could explore the responses of other Spanish women to unsolicited dick pics such as neutral, humorous, sarcastic or even positive reactions.

In conclusion, this study has yielded interesting and, above all, novel findings in Spain on the relatively recent phenomenon of dick pics. The results of this study show the prevalence of the cyberviolent behavior of receiving unwanted dick pics from known and unknown men in a sample of Spanish women. In addition, these results reveal the negative impact on women of receiving this unwanted male sexual content. The findings add relevant knowledge to the existing literature in Spain on the impact of the different modalities of cyberviolence acts directed against women through technological means. Moreover, this study may also make an important contribution to the design and development of programs aimed at the prevention of different modalities of sexual cyberviolence against women. From a more applied and social point of view, the results of this study could have a positive impact on professionals and practitioners who work with women who have suffered situations of cyberviolence, as well as in the media and organizations that carry out programs for the prevention of violence against women. This

will undoubtedly contribute to further research and enrich our understanding of this phenomenon and the instruments needed to curb it.

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Table 1. Descriptive statistics and contrast test according to sexual orientation.

	Total (N = 347)		Heterosexual (n = 263)		Non-heterosexual (n = 84)				
	M	*SD*	*M*	*SD*	*M*	*SD*	*t*	*p*	*d*
Depressed	1.67	0.81	1.66	0.82	1.71	0.76	-0.50	.619	0.06
Annoyed	2.69	1.14	2.59	1.16	2.98	1.02	-2.70	**.007**	0.35
HS	0.53	0.72	0.59	0.70	0.37	0.77	2.39	**.018**	0.31
BS	0.72	0.73	0.76	0.72	0.58	0.76	2.02	**.044**	0.25
Political ideology	2.16	1.45	2.37	1.47	1.51	1.18	5.46	**<.001**	0.61
Religiosity	1.71	1.84	1.96	1.90	0.92	1.38	5.45	**<.001**	0.58
Descriptive norm	3.56	3.04	3.32	2.99	4.30	3.10	-2.53	**.012**	0.33
Mandatory norm	0.16	0.82	0.15	0.73	0.20	1.05	-0.48	.632	0.06

t = Student's t-test for independent samples; *p* = p-value; *d* = effect size (Cohen's d).

Depressed and Annoyed (response scale from 0 to 4 points); HS and BS (response scale from 0 to 5 points); Political ideology and Religiosity (response scale from 0 to 6 points); Descriptive norm and Mandatory norm (response scale from 0 to 10 points).

Table 2. Predictors of emotional impact.

	R^2	F(p)	B	SE	β	T	p	LL	UL
								95% CI	
DV: *Depressed*									
Model	.14	6.36 (<.001)							
Constant			1.67	0.05		33.66	**<.001**	1.57	1.76
Age			-0.05	0.02	-0.15	-2.10	**.036**	-0.08	-0.01
Sexual orientation			-0.03	0.10	-0.02	-0.30	.768	-0.23	0.17
HS			-0.16	0.08	-0.14	-2.10	**.036**	-0.31	-0.01
BS			-0.004	0.07	-0.003	-0.05	.961	-0.15	0.14
Political ideology			-0.07	0.04	-0.14	-2.13	**.034**	-0.14	-0.01
Religiosity			0.09	0.03	0.20	3.19	**.002**	0.03	0.14
Descriptive norm			0.06	0.02	0.22	3.98	**<.001**	0.03	0.09
Mandatory norm			-0.09	0.05	-0.10	-1.81	.071	-0.20	0.01
DV: *Annoyed*									
Model	.16	7.29 (<.001)							
Constant			2.63	0.07		38.12	**<.001**	2.50	2.77
Age			-0.02	0.02	-0.04	-0.72	.474	-0.06	0.03
Sexual orientation			0.24	0.14	0.09	1.68	.095	-0.04	0.53
HS			-0.30	0.11	-0.19	-2.80	**.005**	-0.50	-0.09
BS			-0.002	0.10	-0.001	-0.02	.987	-0.20	0.20
Political ideology			-0.11	0.05	-0.14	-2.23	**.027**	-0.20	-0.01
Religiosity			0.10	0.04	0.16	2.66	**.008**	0.03	0.17
Descriptive norm			0.09	0.02	0.23	4.25	**<.001**	0.05	0.13
Mandatory norm			-0.18	0.07	-0.13	-2.44	**.015**	-0.32	-0.03

LL = Lower Limit; *UL* = Upper Limit; *CI* = Confidence interval 95%.

Table 3. Study variables as a function of the response to harassment.

	Agree		Do not know or disagree			
	n (%)	M (SD)	n (%)	M (SD)	t(p)	d
Block	262 (75.5)		85 (24.5)			
Depressed		1.66 (0.78)		1.72 (0.90)	-0.56 (.574)	0.07
Annoyed		2.73 (1.12)		2.54 (1.18)	1.40 (.163)	0.17
HS		0.50 (0.67)		0.67 (0.87)	-1.58 (.118)	0.23
BS		0.72 (0.74)		0.70 (0.69)	0.24 (.807)	0.03
Political ideology		2.14 (1.41)		2.22 (1.55)	-0.46 (.649)	0.05
Religiosity		1.61 (1.73)		1.99 (2.13)	-1.465 (.145)	0.21
Descriptive norm		3.56 (3.07)		3.54 (2.95)	0.05 (.959)	0.01
Mandatory norm		0.16 (0.81)		0.16 (0.86)	0.07 (.948)	<0.001
Spread	66 (19.0)		281 (81.0)			
Depressed		1.86 (0.91)		1.63 (0.78)	**1.94 (.005)**	0.29
Annoyed		2.73 (1.17)		2.68 (1.13)	0.36 (.718)	0.04
HS		0.57 (0.92)		0.53 (0.68)	0.32 (746)	0.05
BS		0.68 (0.90)		0.73 (0.69)	-0.44 (.657)	0.07
Political ideology		1.95 (1.51)		2.21 (1.43)	-1.29 (.197)	0.18
Religiosity		2.09 (2.18)		1.62 (1.75)	1.65 (.103)	0.25
Descriptive norm		3.80 (3.10)		3.50 (3.03)	0.73 (.463)	0.10
Mandatory norm		0.03 (0.17)		0.19 (0.91)	**-2.76 (.006)**	0.19
Communicate	266 (76.7)		81 (23.3)			
Depressed		1.65 (0.78)		1.76 (0.89)	-1.15 (.249)	0.14
Annoyed		2.70 (1.14)		2.63 (1.14)	0.48 (.632)	0.06
HS		0.51 (0.70)		0.61 (0.81)	-0.90 (.370)	0.14
BS		0.73 (0.74)		0.69 (0.72)	0.43 (.671)	0.05
Political ideology		2.15 (1.44)		2.20 (1.49)	-0.26 (.798)	0.03
Religiosity		1.57 (1.73)		2.16 (2.13)	**-2.29 (.024)**	0.32
Descriptive norm		3.55 (3.02)		3.58 (3.12)	-0.07 (.947)	0.01
Mandatory norm		0.13 (0.61)		0.26 (1.28)	-0.82 (.413)	0.16
Report to administrators	196 (56.5)		151 (43.5)			
Depressed		1.76 (0.81)		1.56 (0.80)	**2.25 (.025)**	0.25
Annoyed		2.87 (1.07)		2.45 (1.19)	**3.38 (.001)**	0.37
HS		0.48 (0.68)		0.60 (0.77)	-1.51 (.133)	0.17
BS		0.70 (0.75)		0.74 (0.71)	-0.41 (.680)	0.05
Political ideology		2.07 (1.41)		2.28 (1.49)	-1.40 (.164)	0.14
Religiosity		1.56 (1.79)		1.89 (1.89)	-1.67 (.095)	0.18
Descriptive norm		3.84 (3.05)		3.19 (3.00)	**1.96 (.050)**	0.22
Mandatory norm		0.11 (0.50)		0.22 (1.10)	-1.15 (.252)	0.14
Report to authorities	101 (29.1)		246 (70.9)			
Depressed		1.88 (0.86)		1.59 (0.77)	**3.10 (.002)**	0.36
Annoyed		2.92 (1.09)		2.59 (1.14)	**2.48 (.014)**	0.29
HS		0.44 (0.65)		0.57 (0.74)	-1.42 (.156)	0.18
BS		0.63 (0.71)		0.75 (0.74)	-1.39 (.164)	0.16
Political ideology		2.03 (1.53)		2.22 (1.41)	-1.09 (.278)	0.13
Religiosity		1.92 (1.98)		1.62 (1.78)	1.39 (.164)	0.16
Descriptive norm		3.29 (2.89)		3.67 (3.10)	-1.03 (.303)	0.12
Mandatory norm		0.13 (0.62)		0.19 (0.89)	-0.44 (.661)	0.07

n (%) = Frequency (percentage) of participants who agree/disagree with the use of the coping strategy; *M (SD)* = Mean score (standard deviation) obtained on the study variable by the participants if they agree/disagree with the coping strategy; *t (p)* = Student's t-test for independent samples (p-value) to analyze mean differences in the study variables according to the two groups (participants agreeing vs. participants disagreeing to use the coping strategy), *d* = effect size (Cohen's d).

Table 4. Receipt of dick pics by male partners and by unknown men.

	Total (N = 347)		Heterosexual (n = 263)		Bisexual (n = 72)		Lesbian (n = 11)		X^2	p	V	Post-hoc
	n	%	n	% (*)	n	% (*)	n	% (*)				
Partner (Boyfriend or flirt)												
Never	94	27.1	84	31.9 (24.2)	7	9.6 (2)	3	27.3 (0.9)				g1 > g2 & g1 > g3
									14.45	**.001**	.20	
Ever	253	72.9	179	68.1 (51.6)	66	90.4 (19)	8	72.7 (2.3)				
Unknown												
Never	180	51.9	152	57.8 (43.8)	25	34.2 (7.2)	3	27.3 (0.9)				g1 > g2 & g1 > g3
									15.45	**<.001**	.21	
Ever	167	48.1	111	42.2 (32)	48	65.8 (13.8)	8	72.7 (2.3)				

X^2 = Pearson's chi-square; p = p-value; V = Effect size (Cramer's V); *Post-hoc* = Post-hoc test; % = Percentage by group (heterosexual vs. bisexual vs. lesbian); (*) = Percentage according to total sample; g1 = Heterosexual, g2 = Bisexual; g3 = Lesbian.