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Article

Online Gendered Violence Victimization Among Adults: Prevalence, Predictors and Psychological Outcomes

Jone Martínez-Bacaicoa¹, Nicola Henry², Estibaliz Mateos-Pérez³ and Manuel Gámez-Guadix¹

Universidad Autónoma de Madrid (Spain)
 RMIT University, Melbourne (Australia)
 Universidad del País Vasco (Spain)

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ABSTRACT

Background: The aim of this study was to analyze the prevalence, age and gender differences, and psychological outcomes (anxiety, depression and self-esteem) related to being a victim of different forms of online gendered violence (OGV), namely: digital sexual harassment; physical appearance-based violence; gender role-based violence; and antifeminism violence. **Method:** 2,471 respondents (71.1 % women) aged 18–79 years (M = 27.28, SD = 10.08) completed self-report measures. **Results:** The results showed that 82.6 % of respondents had experienced at least one form of OGV in the last 12 months. The most frequent form of OGV was digital sexual harassment (66.7%), followed by physical appearance-based violence (60.7%), anti-feminism violence (60.7%) and gender role-based violence (25.4%). OGV was significantly higher among women (88%) than men (68.6%), as well as among younger adults. Finally, the results showed that these forms of violence were associated with worse psychological outcomes, especially for younger respondents and for women. **Conclusions:** OGV is a common phenomenon that may be related to lower psychological well-being. This study provides relevant information that can shape the design of prevention and intervention programs for this form of digital violence.

Victimización Online por Violencia de Género Entre Adultos: Prevalencia, Predictores y Resultados Psicológicos

RESUMEN

Palabras clave:
Violencia de género
Acoso sexual digital
Ajuste psicológico
Depresión
Ansiedad

Antecedentes: El objetivo de este estudio fue analizar la prevalencia, las diferencias de edad y género, y el ajuste psicológico (ansiedad, depresión y autoestima) relacionado con la victimización las siguientes formas de violencia de género online (VGO): acoso sexual digital; violencia basada en la apariencia física; violencia basada en roles de género; y violencia antifeminista. Método: 2471 participantes (71,1 % mujeres) de 18 a 79 años (M = 27,28, DT = 10,08) completaron medidas de autoinforme. Resultados: El 82,6 % de los participantes había experimentado al menos una forma de VGO en los últimos 12 meses. La forma más frecuente de VGO fue el acoso sexual digital (66,7%), seguido de la violencia basada en la apariencia física (60,7%), la violencia antifeminista (60,7%) y la violencia basada en roles de género (25,4%). La VGO fue significativamente mayor entre las mujeres (88%) que entre los hombres (68,6%), así como en entre los adultos más jóvenes. Por último, la victimización se relacionó con un peor ajuste psicológico, especialmente entre participantes más jóvenes y mujeres. Conclusiones: La VGO es una problemática prevalente relacionada con un menor bienestar psicológico. Este estudio proporciona información relevante para el diseño de programas de prevención e intervención.

Gendered violence refers to any type of harm perpetrated against a person as a consequence of gendered power imbalances (Wirtz et al., 2020). A gender system of inequality is predicated on beliefs that construct differential binary attributes for men and women, including descriptors of traits (e.g., concern for others, being warm), physical characteristics (e.g., height, body shape), roles (e.g., being submissive, being a leader) and occupations (e.g., athlete, homemaker) (Leaper, 2015; Moya & Moya-Garófano, 2021). Such beliefs, known as gender norms, reinforce an unequal social structure by conferring more value and power to cis gendered men and what is considered "masculine", compared to women, transgender, or nonbinary people and what is considered "feminine" (Heise et al., 2019; Kimmel, 2016). Accordingly, gender norms not only perpetuate gendered violence, but they are also used as a justification for it (Rodelli et al., 2022). In addition, gender norms inherently ignore the complexity and heterogeneity of gender, reinforcing the perception that individuals within the same gender share the same or similar characteristics (Brown & Stone, 2016). Perpetrators use violence as a means to consolidate traditional gender norms or to punish those who transgress those norms (Felmlee et al., 2020; Martínez-Bacaicoa, Alonso-Fernández et al., 2023).

Gendered violence has become a growing issue in online environments, prompting numerous research studies to focus on this subject (e.g., Gámez-Guadix et al., 2022: Henry & Powell, 2015; Kavanagh & Brown, 2020). Despite the growing interest in this topic, there is a lack of consensus about the terminology and categorizations. Commonly employed terms include (but are not limited to): online sexual harassment (Barak, 2005); online sexual victimization (Gámez-Guadix et al., 2015); and technologyfacilitated sexual violence (Henry & Powell, 2015). The use of these umbrella terms has enabled the collective study of various forms of gender-related violence. However, not all forms of violence have received equal attention individually in the literature. For example, while some types of online abuse, such as image-based sexual abuse, have been extensively studied, online aggressions related to gender norms have received less attention (Henry & Powell, 2018). In this paper, we use the term "online gendered violence" (OGV) to refer to a range of harmful behaviors committed through the use of technology as a means of enforcing gender norms. Different types of OGV have been previously identified in the literature and include digital sexual harassment (Brown & Stone, 2016), physical appearance-based violence (Felmlee et al., 2020), gender role-based violence (Gámez-Guadix & Íncera, 2021), and anti-feminism violence (Lewis et al., 2017). The objective of this study is to expand current understandings of these forms of violence by examining their prevalence, gender and age differences, and associated psychological outcomes.

Online Gendered Violence Type

This study focuses specifically on four forms of OGV identified in previous research. First, digital sexual harassment refers to any unwanted behavior of a sexual nature perpetrated through technology (Barak, 2005; Powell & Henry, 2019). Digital sexual harassment is a gendered problem because of sexualized gender stereotypes of women as the objects for men's consumption (Galdi & Guizzo, 2021; Mikorski & Szymanski, 2017). This form of violence includes directing unwanted, intimate and sexual comments, questions or images (photos or videos) to the victim without their desire or consent (Barak, 2005; Henry & Powell, 2018).

Second, *physical appearance-based violence* includes harmful behaviors related to the victim's appearance based on beauty gender norms (e.g., women have to be slim and attractive, men have to be strong) (Berne et al., 2014; Felmlee et al., 2020). Examples of this form of violence may include sending cruel messages to the victim about their physical appearance (Calvete et al., 2016), disrespectful comments about a woman's body, or criticisms against a man for not being physical strong (Berne et al., 2014).

Third, gender role-based violence includes any form of violence perpetrated against a person for performing behaviors that are socially assigned to another gender (Gámez-Guadix & Íncera, 2021). This form of violence is based on gender-role norms that establish certain ideal traits and occupations for men and others for women. Gender role-based violence may include insults to women who carry out activities that are typically considered masculine (e.g., sports; online gaming) (Demir & Ayhan, 2022; Kavanagh et al., 2019; McCarthy, 2022; Phipps, 2022), taunting men who carry out activities that are typically considered feminine (e.g., taking care of their appearance) (Berne et al., 2014), or violence toward people who do not conform to gender norms (e.g., not being heterosexual or cis-gendered) (Gámez-Guadix & Íncera, 2021; Powell & Henry, 2019).

Finally, anti-feminism violence includes any harmful behavior aimed at individuals who express a feminist perspective or identity. Feminism seeks to end gendered violence and promote gender equality in society (Zucker, 2004). People who have a rigid adherence to traditional gender norms may perceive feminism as a threat to the status quo or to dominant conceptions of masculinity (Gundersen & Kunst, 2019). Stereotypes that portray feminists as non-conforming to assigned gender roles may contribute to negative perceptions about them (McLaughlin & Aikman, 2020; Rudman et al., 2013). Some examples of anti-feminism violence include: harassment; psychological and sexual threats; defamation; incitement to abuse; and hateful messages (Lacalle et al., 2023; Lewis et al., 2017).

Online Gendered Violence Prevalence

Research on OGV has generally focused on studying each form of violence separately. To our knowledge, only one study addresses together these different types of OGV. In their study, Donoso et al. (2017) found that 10.9% of adolescent respondents had experienced unwanted sexual attention; 5.1% had experienced anti-feminism violence; 16.8% had experienced physical-appearance abuse; and 5.8% had been abused for having a feminine appearance.

To our knowledge, there have been no studies to date that broadly address these forms of OGV amongst adult populations, so currently there is a lack of understanding regarding its overall prevalence, nature and impacts. Despite this gap in the existing literature, multiple studies have consistently shown the widespread occurrence of many forms of OGV. For example, Cripps and Stermac (2018) conducted a study with undergraduate women and found that 58% of respondents had received gender-based hate speech and 53% had been victims of digital sexual harassment. In another study, Powell and Henry (2019) found that 29% of respondents had received unwanted sexual images, 21.3% had received unwanted sexual requests, and 19.5% had received degrading comments or content related to their gender. More recently, Salerno-Ferraro et al. (2022) found that 84% of respondents had received inappropriate sexual messages, 64% had been victims of unwanted sexual attention, and 74% had received sexist comments. Similar rates were found

by Snaychuk and O'Neill (2020) in their study in which 73.5% of respondents had experienced unwanted sexual attention and 58.2% gender-based hate speech.

Overall, the existing literature shows that OGV is primarily experienced by women and young adults (Gámez-Guadix et al., 2022; Powell & Henry, 2019). Nevertheless, research on the types of OGV covered in this study is still limited, especially in the adult population, resulting in a lack of clarity regarding prevalence, gender disparities and age-related victimization differences.

Online Gendered Violence and Psychological Outcomes

Gendered violence victimization has been related to poorer psychological well-being (Klettke et al., 2019). Negative outcomes of online aggressions may be heightened due to the permanent nature of some forms of digital violence and the fact that the aggression may be witnessed by many observers, prolonging the situation and, therefore, the victim's distress (Henry & Powell, 2015; Lewis et al., 2017). However, to date, most research on some types of OGV (e.g., appearance-based violence or anti-feminism violence) has been explored by analyzing online content (e.g., tweets, YouTube comments, etc.) (e.g., Felmlee et al., 2020; McCarthy, 2022). This means we still do not know the psychological outcomes that may be related to victimization.

Existing research has found a relationship between being a victim of different forms of online gendered violence and some psychological outcomes (e.g., depression, anxiety, low self-esteem) (Champion et al., 2022; Cripps & Stermac, 2018; Snaychuk & O'Neill, 2020), however, research examining gender differences in distress related to this violence has yielded inconsistent results. While some studies have reported that in the case of similar rates of violence, women tend to experience higher levels of distress (Buchanan & Mahoney, 2022; Duncan et al., 2019; Powell & Henry, 2019), others have found no significant gender differences in victims' psychological well-being (Champion et al., 2022; Ruvalcaba & Eaton, 2020). To our knowledge, these gender differences have not been examined for most forms of OGV, so we do not know if the psychological outcomes associated with victimization experiences are different for women and men. In this regard, it is important to acknowledge that gender norms also affect men, making them potential victims of various forms of OGV. Despite this, research on men's experiences of OGV is limited, making it difficult to understand how gender may shape experiences. Likewise, it is not clear if the link between OGV and psychological outcomes varies by age. This is because studies with adult populations have either not examined the psychological correlates of OGV (e.g., Gámez-Guadix et al., 2015) or age-related differences (e.g., Snaychuk & O'Neill, 2020). Since the sense of social identity is still in the process of development among younger adults (Granic et al., 2020; Haslam et al., 2022), OGV may have a stronger relationship with psychological outcomes among them than among older adults.

The present study seeks to address gaps in the literature by pursuing two specific goals. The first objective is to analyze the prevalence of different forms of OGV as well as differences according to gender and age. The second objective is to analyze the psychological outcomes associated with OGV victimization and to examine whether this relationship varies by gender and age of the victim. Specifically, we investigated depressive symptomatology, anxious symptomatology and self-esteem.

Method

Participants

The initial sample consisted of 2,481 respondents, of which 1,756 were woman (71.1%), 678 were men (27.3%), 37 were non-binary people (1.5%), and 13 did not indicate their gender (0.5%). Considering the study's objectives, respondents who did not indicate their gender were not included in the study. The final sample consisted of 2,471 respondents, of which 1751 were cisgender ("cis") women (70.9%), 5 were transgender ("trans") women (0.2%), 672 were cis men (27.2%), 6 were trans men (0.2%), and 37 were non-binary people (1.5%). The sample was aged between 18–79 years (M = 27.28, SD = 10.08). Regarding sexual orientation, 1,703 were heterosexual (68.9%), 129 were homosexual (5.2%), 535 were bisexual (21.6%), 47 were of another sexual orientation (1.9%), 49 preferred not to answer (2%), and 9 (0.4%) did not indicate their sexual orientation. Most of the sample was Spanish (90%), and the remaining respondents were American (7.2%), European (1.7%), Asian (0.5%), African (0.3%), or did not indicate their country of birth (0.2%).

Instruments

Sociodemographic Ouestionnaire

An ad-hoc questionnaire was developed to collect the following sociodemographic information about respondents: age, gender, sexual orientation, country of birth, and amount of time using the internet use during the week and during the weekend. OGV

Victimization Scales

To assess forms of OGV, the digital sexual harassment, physical appearance-based violence, anti-feminism violence, and gender role-based violence subscales of the Technology-Facilitated Sexual Violence Scales (TFSVQ) were used (Martínez-Bacaicoa, Sorrel et al., 2024) These scales have shown good psychometric properties, including concurrent validity, factorial validity and reliability among adult populations (Martínez-Bacaicoa, Sorrel et al., 2024). Descriptions of each scale are provided below.

Digital Sexual Harassment Scale. The scale consisted of five items: (a) "Someone has made sexual comments that you did not want to receive"; (b) "Someone has asked sexual questions that you did not want to receive"; (c) "Someone has insisted you send sexual content (pictures or videos) that you did not want to send"; (d) "Someone has insisted you answer sexual questions that you did not want to answer"; and (e) "Someone has sent you sexual content (photos or videos) of them that you did not want to receive". Respondents were asked how many times the situations described in the items had occurred using the internet (e.g., forums and chats) or cellphones (e.g., social networks) in the past 12 months. They were asked to respond using the following response scale: "0 = Never"; "1 = 1 or 2 times"; "2 = 3 or 4 times"; "3 = 5 times or more". The internal consistency (Cronbach's alpha) of the scale in this study was 0.91.

Physical Appearance-based Violence Scale. The scale consisted of 4 items: (a) specific verbal insults ("Someone has insulted you because of your physical appearance"); (b) teasing or facetious comments ("Someone has made fun of you because of

your physical appearance"); (c) any form of humiliation, constant disdain, or any other form of emotional mistreatment ("Someone has humiliated, belittled, or made you feel inferior because of your physical appearance"); and (d) exclusion from online spaces ("Someone has discriminated or excluded you from an online group, forum, or chat because of your physical appearance"). Respondents were asked how many times the situations described in the items had occurred using the internet (e.g., forums and chats) or cellphones (e.g., social networks) in the past 12 months. They were asked to respond using the following response scale: "0 = Never"; "1 = I or 2 times"; "2 = 3 or 4 times"; "3 = 5 times or more". The Internal consistency (Cronbach's alpha) of the scale in this study was .91.

Anti-Feminism Violence Scale. The scale consisted of four items: (a) specific verbal insults ("Someone has insulted you for expressing or defending feminist issues"); (b) teasing or facetious comments ("Someone has made fun of you for expressing or defending issues feminist issues"); (c) any form of humiliation, constant disdain, or any other form of emotional mistreatment ("Someone has humiliated, belittled, or made you feel inferior for expressing or defending feminist issues"); and (d) exclusion from online spaces ("Someone has discriminated or excluded you from an online group, forum, or chat for expressing or defending feminist issues"). Respondents were asked how many times the situations described in the items had occurred using the internet (e.g., forums and chats) or cellphones (e.g., social networks) in the past 12 months. They were asked to respond using the following response scale: "0 = Never"; "1 = 1 or 2 times"; "2 = 3 or 4 times"; "3 = 5 times or more". The internal consistency (Cronbach's alpha) of the scale in this study was .95.

Gender Role-Based Violence Scale. The scale consisted of four items: (a) specific verbal insults ("Someone has insulted you for looking 'too masculine' or doing 'manly things'"); (b) teasing or facetious comments ("Someone has made fun of you for looking 'too masculine' or doing 'manly things'"); (c) any form of humiliation, constant disdain, or any other form of emotional mistreatment ("Someone has humiliated, belittled, or made you feel inferior for looking 'too masculine' or doing 'manly things'"); and (d) exclusion from online spaces ("Someone has discriminated or excluded you from an online group, forum, or chat for looking 'too masculine' or doing 'manly things'"). Respondents were asked how many times the situations described in the items had occurred using the internet (e.g., forums and chats) or cellphones (e.g., social networks) in the past 12 months. They were asked to respond using the following response scale: "0 = Never"; "1 = 1 or 2 times"; "2 = 3 or 4 times"; "3 = 5 times or more". The internal consistency (Cronbach's alpha) of the scale in this study was .88 for the woman scale and .91 for the man scale.

Psychological Outcomes Scales

Brief Symptom Inventory (BSI; Derogatis, 2001). The respective scales of the BSI in its Spanish version were used to assess anxious and depressive symptomatology. Each scale consisted of six items. Respondents were asked to indicate the frequency of experiencing each symptom (e.g., "Feeling sad" or "Feeling no interest in things") over the previous two weeks using a response scale ranging from 1 (not at all) to 5 (extremely). This instrument has shown good psychometric properties, both in terms of reliability and validity (Pereda et al., 2007). The internal

consistency (Cronbach's alpha) in this study was .88 for the anxiety symptom scale and .86 for the depression symptom scale.

Rosenberg Self-Esteem Scale (RSE; Martín-Albo, 2007; Rosenberg, 1965). The Spanish version of RSE was used to assess self-esteem. The scale is comprised of 10 items, with half being positively worded and the other half negatively worded. An example of an item is "I feel that I have a number of good qualities". A Likert-type response format ranging from 1 (strongly disagree) to 4 (strongly agree) is used to answer each item. RSE has proved to be a valid and reliable instrument (McCarthy & Hoge, 1982). The internal consistency (Cronbach's alpha) of the scale in this study was .90.

Procedure

Respondents completed an online survey using the Qualtrics platform. The survey was distributed through invitations with information about the study that were sent out to educational institutions (university departments, high schools, training centers, etc.) and disseminated via social networks (e.g., Facebook and Instagram). Prospective respondents were provided with an information sheet explaining that the study focused on their online experiences. Along with the information sheet, the survey included an informed consent form and a question that allowed respondents to indicate their understanding of the information and voluntary agreement to participate. Respondents were informed that their participation would be kept confidential and that they could withdraw from the study at any time. Once consent was obtained, respondents were given access to the survey, which took approximately 25-30 minutes to complete. This study was part of a larger project which had been approved by the Ethics Committee of the Autonomous University of Madrid.

Data Analysis

First, we computed descriptive statistics, including prevalence, gender and age differences in victimization and correlations analyses. To calculate prevalence, the variables were dichotomized ("0 = never"; "1 = 1 or more times" during the past year). Pearson's $\chi 2$ test was used to contrast the differences based on gender and age. Non-binary people were not included in analyses on gender difference due the small sample size (n=37). Age groups were established based on previous research on gendered digital violence (e.g., Gámez-Guadix et al., 2015; Powell & Henry, 2019). Subsequently, three hierarchical regression analyses were conducted to test hypotheses about the relationship between victimization of each type of harassment (digital sexual harassment, gender role-based violence, anti-feminism violence, appearance-based violence) and anxiety, depression and selfesteem. Types of victimization, age and gender were introduced in step 1. In step 2, interactions were added to test the effect of gender. The independent variables were centralized to minimize collinearity among them. Missing data in the dependent variables was less than 3%. For missing values below 5%, a complete case analysis is recommended, as it has no bias or practical implications (Drechsler, 2015). Hence, the listwise elimination method was used to handle missing values. All analyses were performed using the SPSS statistical software version 28.

Results

Prevalence of Online Gendered Violence Victimization and Age and Gender Differences

Most of the respondents in this study (82.6%) had experienced at least one form of OGV during the past year. Table 1 presents the prevalence of victimization of each form of violence in the last 12 months and summarizes the gender and age differences. The most prevalent form of violence was digital sexual harassment (66.7%), followed by physical appearance-based violence (60.7%), antifeminism violence (60.7%) and gender role-based violence (25.4%). Regarding gender differences, the prevalence of total victimization was significantly higher in women (88%) compared to men (68.6%) [χ^2 (1, N = 2,434) = 123.972, p < .001]. The only form of violence in which women are not significantly victimized to a greater extent is gender-role based violence. Regarding age, the total prevalence of TFSV victimization was more common in the 18–24-year-old group (87.4%), than in the 35–44-year-old group (78%) or the > 45-year-old group (51.4%) [χ^2 (3, N = 2471) = 175.24, p < .001].

Relationship Between Different Forms of OGV with Anxiety, Depression, and Self-Esteem

The relationship between the different forms of OGV with anxiety, depression, and self-esteem was calculated. The bivariate correlations (Table 2) showed significant relationships between all variables (p < .05) and were in the expected direction. The lowest correlation was -.12 (p < .001) between gender role-based

violence and self-esteem and the highest correlation was .27 (p < .001) between anti feminism-based violence and anxiety.

To analyze the relationship between victimization and psychosocial outcomes, three linear regressions were carried out controlling age, gender, and time of internet use in step 1. In the second step, interactions were included to test the effect of gender and age. The results of the three-regression analysis indicate that digital sexual harassment victimization was related to higher levels of anxiety ($\beta = .07$, p < .005), and that physical appearancebased victimization predicted lower levels of self-esteem (β= -.12, p < .001) and higher levels of anxiety ($\beta = .07$, p < .05) and depression (β = .08, p < .005). Anti-feminism victimization predicted lower levels of self-esteem ($\beta = -.05$, p < .05) and higher levels of anxiety ($\beta = .11$, p < .001) and depression ($\beta = .10$, p < .001) .001) (Table 3). The interactions between age and anti-feminism violence victimization were significant to predict anxiety (β = -.08, p < .001), depression ($\beta = -.06$, p < .05) and self-esteem ($\beta =$.05, p < .05). The interaction between gender role-based violence victimization and gender was significant to predict anxiety (β = .15, p < .05). These interactions were maintained in the final models and their graphical representation is shown in Figures 1-4. Figure 1 shows that the relationship between gender role-based victimization and anxiety was stronger for men than for women. In addition, women who experienced gender role-based violence presented greater anxious symptoms than men, regardless of the amount of victimization (see Figure 1). Regarding age, Figures 2-4 show that younger adults who experienced anti-feminism violence present worse psychological symptoms (anxiety, depression and self-esteem) than older adults.

 Table 1

 Prevalence of OGV and Gender and Age Differences in OGV Victimization

	Total		Gender				Age		
		Men n = 678	Women n = 1756	χ²	18–24 n =1286	25–34 n = 735	35–44 n = 232	> 45 n = 218	χ²
Digital sexual harassment	66.7%	45.1%	74.8%	186.99**	74.2% a	67.4%	54.3% a	32.7% a	158.82**
Gender role-based violence	25.4%	23.4%	26.2%	2.12	24.8%	31.8% a	23.4%	10.3% a	42.02**
Physical appearance-based violence	60.7%	50.4%	64.6%	41.07**	66.1% a	63%	51.9% a	30.8% a	104.14**
Anti-feminism violence	60.7%	32.5%	68.5%	259.23**	59.5%	66.6% a	55%	29.9% a	93.03**
Total	82.6%	68.6%	88%	127.97**	87.4% a	85%	78% ª	51.4% a	175.24**

Note: Prevalence refers to respondents who reported having been victims of some form of violence at least once in the last 12 months

 Table 2

 Correlation Matrix Between Variables

	1	2	3	4	5	6	7	8	9	10
1. Age										
2. Week internet use	31**									
3. Weekend internet use	31**	.62**								
4. Depression	25**	.21**	.17**							
5. Anxiety	21**	.13**	.10**	.68**						
6. Self - esteem	.22**	18**	18**	67**	51**		-			
7. Digital sexual harassment	19**	.11**	.06**	.21**	.24**	14**				
8. Gender role-based violence	08**	.09**	.05 *	.17**	.29**	12**	.36**			
9. Physical appearance–based violence	19**	.14**	.11**	.25**	.25**	24**	.49**	.52**		
10. Anti-feminism violence	12**	.01**	.04	.24**	.27**	19**	.48**	.44**	.58 *	
Mean	27.28	2.6	2.8	1.5	1.3	1.9	0.9	0.2	0.7	0.8
SD	10.08	1	1.1	1	1	0.6	0.9	0.5	0.8	0.9

Note. * p < .05 **p < .001

^a Standardized residuals $\pm 1.96 **p < .001$

Table 3 Linear Regression Models

	Anxiety				Depression				Self-Esteem			
	Step 1		Step	2	Step 1		Step 2		Step 1		Step 2	
	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
Age	14***	.00	17***	.00	16***	.00	18***	.00	.13***	.00	.15***	.00
Gender	19***	.05	18***	.05	11*	.05	11*	.05	.28***	.03	.28***	.03
Week internet use	.03	.03	.04	.03	.10***	.03	.10***	.03	07*	.02	07*	.02
Weekend internet use	.03	.02	.03	.02	.05	.02	.05	.02	10***	.01	10***	.01
Digital sexual harassment	.07**	.03	.07*	.03	.04	.03	.04	.03	.03	.02	.03	.02
Gender role-based violence	.07*	.05	08	.12	.03	.05	.04	.05	01	.03	02	.03
Physical appearance-based violence	.07*	.03	.07*	.03	.09***	.03	.08**	.03	13***	.02	12***	.02
Anti-feminism violence	.12***	.03	.11***	.03	.11***	.03	.10***	.03	06*	.02	05*	.02
Anti-feminism violence * Age			08***	.00			06*	.00			.05*	.00
Gender role-based violence * Gender			.15*	.10								
\mathbb{R}^2	.13		.14		.14		.14		.11		.12	

Figure 1 Moderating Role of Gender in the Relationship Between Gender Role-Based Victimization and Anxious Symptomatology

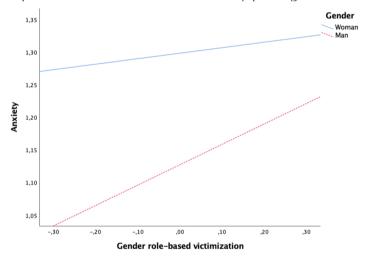
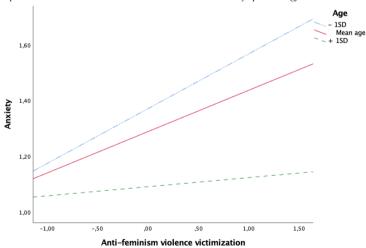


Figure 2 Moderating Role of Age in the Relationship Between Gender Anti-Feminism Victimization and Anxious Symptomatology



Note. 1= woman 2= man *p < .05 **p < .005 ***p < .001

Figure 3

Moderating Role of Age in the Relationship Between Gender Anti-Feminism Victimization and Anxious Symptomatology

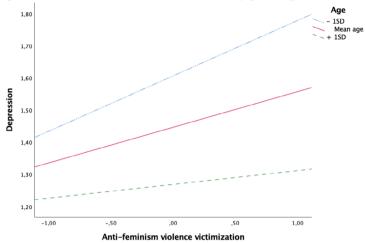
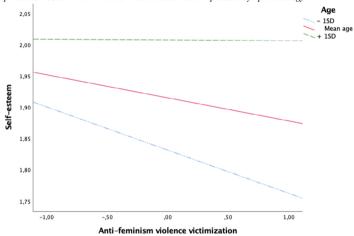


Figure 4

Moderating Role of Age in the Relationship Between Gender Anti-Feminism Victimization and Depressive Symptomatology



Discussion

This study aimed to analyze the prevalence, age and gender differences, and related psychological outcomes (depression, anxiety, self-esteem), of various forms of OGV, including digital sexual harassment, physical appearance-based violence, antifeminism violence and gender role-based violence. The results revealed that OGV is a prevalent form of violence, with 82.6% of the respondents having experienced it at least once in the past year. The most frequent form of violence was digital sexual harassment (two out three respondents), followed by physical appearance-based violence and anti-feminism violence (six out ten respondents for both types), and gender role-based violence (one out four respondents). Furthermore, victimization rates were found to be significantly higher among women compared to men, with a difference of almost twenty percental points (88% vs. 68.6%), as well as among younger adults aged 18-24 years and 25-34 years. Finally, the findings revealed that OGV was related to worse psychological outcomes, underscoring the importance of developing prevention and intervention programs.

The analysis of gender differences revealed that digital sexual harassment, physical appearance-based violence and anti-feminism violence are gendered problems experienced significantly more by women than by men. In the case of gender role-based violence, gender differences were not significant. This could be explained by the fact that while most forms of OGV assessed in this study are based on gender norms that primarily affect women (e.g., women as sexual objects, women as silent and submissive) (Calogero et al., 2017; Gervais et al., 2012), gender role-based violence can affect women, men and other genders who do not conform to socially expected behaviors for a particular gender. These results reflect, as suggested in previous research (Citron, 2014; Powell et al., 2022), that OGV is shaped by gender and that men may experience distinct forms of violence that differ from those faced by women. In other words, rather than being the target of misandrist violence directed at them as men, it appears that men may experience violence that is linked to the questioning of their masculinity.

Regarding age-related differences, the results reflect that OGV is a form of violence prevalent in all age groups, but that it especially affects younger adults (18-34 years). This pattern consistently emerges in certain forms of OGV. For example, individuals aged 18 to 24 experienced more violence than those aged 35 to 45 and individuals over 45 in the case of physical appearance-based violence (66.1% vs. 51.9% and 30.8%) and digital sexual harassment (74.2% vs. 54.3% and 32.7%). In addition, it was the 24-34 age group that experienced significantly higher levels of violence, compared to the > 45 age group, in relation to gender role-based violence (31.8% vs. 10.3%) and anti-feminism violence (66.6% vs. 29.9%). These results are in line with those found in previous studies on gendered forms of online violence (Gámez-Guadix et al., 2015; Powell & Henry, 2019), and may be explained by the greater use of the Internet among young adults or by the fact that perpetrators may perceive them as more vulnerable and suitable victims (e.g., young women for digital sexual harassment) (Finkelhor & Asdigian, 1996).

The second objective of the study was to analyze the relationship between OGV victimization and psychosocial outcomes (depression, anxiety, self-esteem). The results suggest that being a victim of any form of OGV was related to worse psychosocial outcomes. Specifically, it was found that digital sexual harassment was related to higher anxiety symptoms and physical appearance-based violence and anti-feminism violence were associated with more depression and anxiety symptoms and lower self-esteem. These results are in line with previous studies in which some gendered forms of violence were related to worse psychological well-being (e.g., Snaychuk & O'Neill, 2020). The study also shows that other less studied forms of violence, such as appearance-based violence or anti-feminism violence, are associated with the psychological health of the victim.

The interaction analyses between gender and forms of OGV revealed a significant interaction between gender role-based violence and participants' gender. Specifically, it was found that the relationship between transgressing gender roles and anxiety was stronger for men than for women. Women showed similar levels of anxiety regardless of their victimization level. This suggests that feminine roles are associated with a higher negative component, and when these roles are performed by men, social stigma is higher. In addition, women showed greater anxiety than men at similar rates of victimization, which is consistent with previous studies (e.g., Buchanan & Mahoney, 2022; Powell & Henry, 2019). In the case of digital sexual harassment, appearance-based violence and anti-feminism violence, the level of distress did not depend on gender, which is in line with findings in some previous studies (Champion et al., 2022; Ruvalcaba & Eaton, 2020). These results point to the need of further research on online gendered violence, because although gender may influence the distress associated with victimization, it is necessary to consider potential confounding variables, such as the nature of the aggression (public or private) or the relationship with the perpetrator (e.g., partner or ex-partner, an unknown person on the Internet), which may amplify or mitigate the associated psychological outcomes.

The analysis of age-related differences in the psychological impact of OGV revealed that psychological symptoms tend to be more pronounced among younger individuals, particularly in cases involving anti-feminism violence. One possible explanation for these findings may be the connection between this form of violence and individuals' identity. Engaging in online feminist activism reinforces the respondents' sense of social identity (Foster et al., 2021). In this regard, it is known that the identity of younger

individuals is still in development (Granic et al., 2020; Haslam et al., 2022), so being victims of anti-feminism violence may lead them to experience greater distress than older adults. In addition, younger adults may attach greater importance to gender equality values than older individuals (Álvarez, 2018), which might make anti-feminism violence more distressing for them.

The findings of this study are important for several reasons. Firstly, they demonstrate OGV is a prevalent problem and this underscores the importance of developing online violence prevention policies and programs. These programs should be extended to adult populations and should address the gender norms that underlie this form of violence. Secondly, the results underscore the importance of raising awareness among healthcare professionals about the impacts of OGV and could help to shape strategies to effectively manage its potential consequences. Thirdly, the findings highlight the importance of continued research into this phenomenon, as the distress resulting from OGV can contribute to the creation of hostile spaces and the exclusion of those who do not conform to gendered stereotypes. In this regard, it has been observed that violence can act as a mechanism to silence women and gender-diverse people, and that, on many occasions, witnessing others being victimized in specific online spaces leads them to withdraw from those platforms (Nadim & Fladmoe, 2021).

This study has several limitations that should be considered. First, the sample is not representative of the population, so care must be taken when generalizing the results. Future studies should be conducted with samples with people from more diverse cultures, gender identities and sexual orientations. Although this study did not include online violence on the basis of gender identity or sexuality due to low participation of sexual minorities and trans people, it is especially important for future studies to consider their experiences, as individuals with diverse identities and orientations are at a higher risk of experiencing online violence (Powell et al., 2020). Second, while this study solely examined the related psychological outcomes of OGV, there is a need to further investigate its wider impact on individuals' lives. Future research should explore the comprehensive repercussions of OGV, encompassing not only psychological aspects but also behavioral factors (e.g., social media disengagement) and social consequences (e.g., diminished social standing, loss of support). Finally, the correlations between OGV and psychological adjustment were of small to medium effect size while the models had limited explanatory power, explaining from 12% to 14% of variance of mental health outcomes. This can be due to the many factors affecting well-being and that we measured the victimization just in the last year. Previous and recurring experiences of victimization may have gone unnoticed and still had an impact on the mental health of the respondents. Future studies should include additional variables, such as the polyvictimization over longer periods, and methodologies (e.g., longitudinal studies with several follow-ups to better understand psychological outcomes of OGV).

In conclusion, the findings of this study demonstrate that although men can be targets of OGV, women and young adults are the primary victims. Furthermore, the substantial prevalence of OGV suggests that online environments may be evolving where users openly express misogynistic and sexist views which would not be acceptable in offline contexts. This highlights the importance of developing OGV prevention programs that safeguard potential victims and make the online environment a safer space for individuals of all genders and identities.

Author Contributions

Jone Martínez-Bacaicoa: Conceptualization, Methodology, Formal Analysis, Investigation, Writing - Original Draft, Writing-Review & Editing, Visualization, Project Administration. Nicola Henry: Conceptualization, Writing - Review & Editing, Visualization, Supervision. Estíbaliz Mateos-Perez: Investigation, Writing - Review & Editing, Visualization, Project Administration. Manuel Gámez-Guadix: Conceptualization, Methodology, Writing - Review & Editing, Visualization, Supervision, Project Administration, Funding Acquisition.

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Declaration of Interests

The authors declare that there is no conflict of interest.

Data Availability Statement

Data are available on reasonable request and on signature of a confidentiality agreement from author Manuel Gámez-Guadix.

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