



# Prevalence and Motivations for Technology-facilitated Gender- and Sexuality-based Violence Among Adults: A Mixed-methods Study

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## Abstract

Technology-facilitated gender- and sexuality-based violence (TFGSV) refers to the set of behaviors through which technology is used to harm people because of their sexual or gender identities. The present study aimed to assess the prevalence of the perpetration of different forms of TFGSV among adults, to analyze possible gender and age differences, and to explore the motivations behind these aggressive acts. A mixed-methods approach was employed to integrate quantitative data ( $N=2,316$ , 69% women;  $M_{\text{age}} = 27.22$ ,  $SD_{\text{age}} = 10.169$ ) with qualitative open-ended data ( $n=239$ , 61.5% women;  $M_{\text{age}} = 26.3$ ,  $SD_{\text{age}} = 8.38$ ) to gain a more in-depth understanding of TFGSV perpetration and its motivations. The results that TFGSV is a prevalent issue among all age groups and 25.6% of the participants had perpetrated some form of it. In addition, although men are the main perpetrators, women and non-binary people may also be involved in TFGSV perpetration. The main motivations behind TFGSV perpetration included expressing ideological disagreement, rejecting someone, self-defense or defending others, managing unpleasant emotions, socializing, and a lack of reflection or awareness. Another motivation for sharing TFGSV content was to increase awareness of this type of aggression by making it visible to others. These results suggests that prevention programs should target all age groups and consider all the motivations behind the perpetration of TFGSV.

**Keywords** Gender-based violence · Sexuality-based violence · Technology-facilitated violence · Sexual violence · Online violence · Perpetrators of violence · Sexual minority groups · Violence motivations · Virtual violence

From birth, children are socialized into a gender group based on their primary sexual characteristics (Heise et al., 2019; Jamel, 2018; Stockard, 2006). People are expected to display a series of interests, attitudes, behaviors, and appearances congruent with the gender they have been assigned (Arcand et al., 2020). These gender norms not only outline how each person should behave but also establish an inequitable gender division in society by placing greater value on men and what is considered masculine than on women and

what is considered feminine (Heise et al., 2019; Kimmel, 2016; Ridgeway & Correll, 2004). In this context, women and people who do not adhere to the behavioral and gender roles imposed by society, such as some members of the lesbian, gay, bisexual, transgender and queer (LGBTQ) community, are victims of many and varied forms of violence (Backe et al., 2018; Dunn, 2020; Jamel, 2018; Klemmer et al., 2021). With the advancement of technology, these forms of violence have found new and different ways to reproduce in cyberspace and perpetuate the existing structural inequalities in society (Donoso-Vázquez et al., 2017; Pashang et al., 2018; Varela et al., 2021).

Technology-facilitated gender- and sexuality-based violence (TFGSV) is the term used to refer to the range of behaviors through which technology is used to harm people based on their sexual or gender identities (Powell et al., 2020; Powell & Henry, 2019). TFGSV is usually understood as a form of technology-facilitated sexual violence (TFSV), an umbrella term that includes unwanted sexual attention and image-based sexual abuse (sextortion

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and non-consensual sexting) (Henry & Powell, 2018; Powell & Henry, 2019). Although interest in studying TFSV has grown in recent years (Champion et al., 2022; Patel & Roesch, 2022; Salerno-Ferraro et al., 2021), most studies have focused on those forms of violence that are of a sexual nature, such as sextortion or non-consensual pornography (e.g., Gámez-Guadix et al., 2022a, 2022b; McGlynn et al., 2021; Patchin and Hinduja, 2020; Powell et al., 2019), with research on gender- and sexuality-based violence remaining limited. Also, while most studies have focused on the study of victimization in younger segments of the population (e.g., Salerno-Ferraro, 2021; Snaychuk & O'Neill, 2020), there has been much less research on perpetration among adults. As a result, there is still a lack of precise information on the profiles of TFGSV offenders and their motivations. The present study aimed to address these research gaps by directly studying the perpetration of TFGSV and its main motives in a sample of adults.

## Conceptualization of TFGSV

The term TFGSV includes several forms of violence. *Passive TFGSV* is a form of online hate speech that includes the online use of offensive or aggressive language toward a particular group of people sharing a common quality, such as religion, race, gender, sex, or ideology (Wachs et al., 2021; Watanabe et al., 2018). Specifically, passive TFGSV occurs when hate speech is directed at particular people based on their gender, gender identity, or sexual orientation (Barak, 2005). Hate speech toward women and LGBTQ people is common on the internet (Frenda et al., 2019; Reichelmann et al., 2020) and can take the form of degrading images or hateful writings that affect these social groups (Ștefăniță & Buf, 2021). The consequences of gender- and sexuality-based hate speech can include the creation of prejudices and intolerant environments, fostering hostility and discrimination, and even promoting violent acts against women and LGBTQ people (Gagliardone et al., 2015).

On the other hand, *active TFGSV* can take the form of the expulsion of people from online spaces because of their gender identities or sexual orientations, making fun of someone for not being heterosexual, or insulting a person based on their gender identity (Gámez-Guadix & Incera, 2021; Powell et al., 2020). Research has shown that active TFGSV is directed toward women who may be perceived as not conforming to traditional gender roles. For example, it has been found that women who identify as feminists are targeted with more forms of violence (Hardaker & McGlashan, 2016; Castaño-Pulgarin et al., 2021). It has also been found that attacks on physical appearance are a common form of online violence against women (Felmlee

et al., 2020). Similarly, multiple studies have suggested that women who carry out activities that are typically considered masculine are often victims of online gender-based violence (e.g., Demir and Ayhan, 2022; McCarthy, 2022). Regarding its consequences, existing research indicates that TFGSV is related to various mental health outcomes for victims, such as anxiety and depressive symptoms (Champion et al., 2022; Gámez-Guadix & Incera, 2021).

## Prevalence of TFGSV

Studies analyzing the prevalence of TFGSV perpetration to date are very scarce. Regarding adolescents, Varela et al. (2021) carried out a study that included 615 participants and found that 18.5% of these participants had insulted a woman online for not having an attractive appearance, 8.8% had done so for advocating feminist issues, 17.9% had insulted someone for not adhering to assigned gender roles closely enough, and 5.4% had insulted a person for not being heterosexual or for being trans. These percentages are like those previously found by Donoso-Vázquez et al. (2017) in a study with 155 adolescents. Specifically, the authors found that 16.8% of the participating adolescents had insulted a girl for not being attractive, 6.5% had picked on a woman for having a feminist ideology, 14.2% had insulted someone for transgressing gender roles, and 11.8% had exercised violence against someone for not being heterosexual or for being trans. In terms of perpetrator characteristics, both studies found that men were the foremost perpetrators of these forms of violence.

To our knowledge, there have been no studies on perpetration among adults. However, it is crucial to have such information, as TFGSV also affects this sector of the population (Powell & Henry, 2019). To date, information on TFGSV offenders has often been obtained from victim testimonies (e.g., Guerra et al., 2021; Powell and Henry, 2019) or from analysis of content posted on the internet (e.g., Bartlett et al., 2014; Pascoe & Diefendorf, 2019; Sterner and Felmlee, 2017). Although the contributions of these types of studies are valuable, they tend to underestimate the prevalence of perpetration because victims do not always label their experiences as TFGSV (Henry et al., 2020). Also, these approaches only allow access to the information that perpetrators share about themselves on the internet. Consequently, because the offenders' identities are anonymous, many studies do not provide relevant information about them, such as their age or gender (e.g., Harris and Vitis, 2020; Felmlee et al., 2020; Guerra et al., 2021). Therefore, there is a need for studies that directly address perpetration and provide accurate knowledge of TFGSV perpetrators' characteristics—knowledge that is not often accessible to

victims or researchers. This information could help to align prevention programs with reality.

### Motivations Behind TFGSV Perpetration

TFGSV, along with presenting in a variety of forms, can have a variety of functions. Function refers to the motives that lead someone to engage in violence (Kjærviik & Bushman, 2021; Lansford, 2018). The differentiation between function and form is important because people can engage in the same type of violence for different reasons (De Marsico et al., 2022). For example, a person might post content that attacks women or LGBTQ people to adhere to the dynamics of their social group, or they might do so in response to a previous attack. Similarly, a harasser might attack a woman's physical appearance to make others laugh, or they might do so in a moment of anger.

Traditional research on the motivation behind violence has differentiated between proactive and reactive aggression (Raine et al., 2006; Wrangham, 2018). *Proactive aggression* refers to planned or premeditated actions that pursue a specific goal, while *reactive aggression* refers to impulsive and unplanned actions motivated by emotional states of rage or anger (Wrangham, 2018; James et al., 2020). However, some authors argue that this differentiation is limited, as it leaves out many other functions that violence can have (Howard, 2011; Runions et al., 2018; De Marsico et al., 2022). In fact, throughout the literature on cyberviolence, motivations have been identified that do not fit neatly into any of these categories. For example, it has been found that one of the frequent motivations for engaging in online hate speech is revenge (Runions et al., 2018; Tanrikulu & Erdur-Baker, 2021; Wachs et al., 2022), which is difficult to fit within the proactive–reactive dichotomy, as it could be carried out both impulsively as an immediate response to previous aggression or in a deliberate and planned manner. Similarly, a desire to fit into one's social group (Wachs et al., 2022) has been found to be another motivation for exercising cyberviolence, and this could be achieved through premeditated aggression against a victim (e.g., when one intentionally insults someone to make others laugh) or simply allowing oneself to be carried away by a situation (e.g., when others pick on someone and one follows this dynamic to fit in). Therefore, it seems necessary to go beyond the reactive–proactive dichotomy and explore the broader range of functions that cyberviolence can fulfill.

In the field of TFGSV, information on the function of violence is scarce, as most research has focused on victimization and capturing and assessing the heterogeneity of forms that aggression can take (e.g., Cripps, 2016; Gámez-Guadix & Íncera, 2021). Therefore, it is essential to design studies that lead to the acquisition of information about the perpetration

process, especially given that failing to consider the different motives that lead people to engage in TFGSV could be an obstacle in preventing this phenomenon.

### The Present Study

The present study was intended to address gaps in the literature and study the TFGSV phenomenon directly from the perpetrators' perspective, using a mixed-methods approach that involved collecting and analyzing both quantitative and qualitative data within the same study. Specifically, the first objective was to assess the prevalence of the perpetration of different forms of TFGSV among adults and to analyze any gender and age differences. To achieve this aim, a quantitative analysis was conducted based on participants' responses to a TFGSV perpetration questionnaire. The second objective was to explore the motivations behind the perpetration of these forms of online violence. For this purpose, the open-ended responses of participants who admitted to engaging in TFGSV at least once in the past year were qualitatively analyzed. This mixed-methods approach allows for an in-depth understanding of TFGSV perpetration, which remains poorly understood. Due to the scarcity of prior empirical research on this issue, we approached the study in a descriptive and exploratory manner.

### Method

#### Participants

The initial sample consisted of 2,327 participants, of which 1,593 were cisgender ("cis") women (68.5%), 5 were transgender ("trans") women (0.2%), 674 were cis men (29%), 6 were trans men (0.3%), 38 were non-binary people (1.6%), and 11 did not indicate their gender (0.5%). Considering the study's objectives, participants who did not indicate their gender were excluded from the study. The final sample consisted of 2,316 participants (69% female, 29.4% male, 1.6% non-binary) aged 18–79 years ( $M=27.11$ ,  $SD=10.169$ ). Regarding sexual orientation, 1,579 were heterosexual (68.2%), 129 were homosexual (5.6%), 510 were bisexual (22%), 41 were of another sexual orientation (1.8%), 48 preferred not to answer (2.1%), and 9 (0.4%) did not indicate their sexual orientation. Most of the sample was Spanish (90.1%), and the remaining participants were American (7%), European (1.7%), Asian (0.5%), African (0.4%), or did not indicate their country of origin (0.3%).

## Measures

**Sociodemographic questionnaire.** Participants answered questions about their age (age was calculated using date of birth), gender (cis woman, trans woman, cis man, trans man, or non-binary), sexual orientation (heterosexual, bisexual, homosexual, or other), and country of birth (open-ended question).

**TFGSV perpetration.** Given the absence of previous instruments, we used previous measures (e.g., Gámez-Guadix & Íncera, 2021; Gámez-Guadix et al., 2022a, 2022b) to develop a series of scales to assess the three types of gender- and sexuality-based violence. We crossed all TFGSV items (gender-based violence, gender identity-based violence, sexual orientation-based violence) with the following specific perpetration situations: insulting someone, making fun of someone, humiliating someone, and excluding someone from an online group (e.g., “You have insulted a woman for looking ‘too masculine’ or doing ‘manly things’”; “You have discriminated against or excluded someone from an online group, forum, or chat for being homosexual, bisexual, asexual, or non-heterosexual”). Three additional items were also included to measure passive perpetration for the three forms of TFGSV (e.g., “You have posted or shared degrading images, videos, or writings that inappropriately attacked people for being trans”). The specific content of the items is included in Table 1. Participants were asked how many times the situations described in the items had occurred using the internet (e.g., forums and chats) or cell-phones (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.” Internal consistency (Cronbach’s alpha) for the measures of violence are as follows: passive violence ( $\alpha=0.90$ ), gender-based violence ( $\alpha=0.88$ ), sexual orientation-based violence ( $\alpha=0.84$ ), and gender identity-based violence ( $\alpha=0.87$ ).

**Motivation for perpetrating TFGSV.** Those who responded affirmatively to any of the TFGSV perpetration items were asked to answer an open-ended question regarding why they engaged in that behavior (“Regarding the above statements, please explain why you engaged in those behaviors”).

## Procedure

Participants completed an online survey using the Qualtrics platform. The survey was disseminated using several recruitment methods: (1) invitations with information about the investigation were distributed to multiple Spanish educational centers via email, (2) invitations were sent to students at several Spanish universities, and (3) dissemination

occurred via social networks (e.g., Facebook and Instagram). Potential participants received an information sheet indicating that this was a study about their online experiences. In case they had any further questions, they were given the researchers’ email addresses. In addition to the information sheet, the survey included a copy of the informed consent form and a question allowing participants to indicate that they understood the information and agreed to participate voluntarily by selecting “yes.” Participants were informed that their participation was confidential and that they could leave the study at any time. Once participants consented, they were given access to the survey, which took approximately 25–30 min to complete. The survey contained questions about a larger project on sexual violence facilitated by new technologies approved by the Ethics Committee of Autonomous University of Madrid. The Ethics Committee’s consent was obtained prior to data collection.

## Data Analysis

The present study aimed to analyze the prevalence of TFGSV, the existence of gender and age differences in the perpetration of TFGSV, and the motivations of those who had perpetrated some form of TFGSV. To this end, we used a mixed-methods approach that involved combining a quantitative analysis of questionnaire data, which was intended to examine the perpetration of TFGSV, with a qualitative analysis of the open-ended questions, which was intended to explore the motivations of those who had perpetrated some form of TFGSV.

To calculate prevalence, the variables were dichotomized (“0 = never”; “1 = 1 or more times”). Pearson’s  $\chi^2$  test was used to contrast the differences based on gender and age. Since the missing data in the dependent variables never exceeded 2.55%, neither full maximum likelihood nor multiple imputation estimation procedures were used. When missing values are less than 5%, a complete case analysis is recommended with no bias or practical implications (Drechsler, 2015). Therefore, the listwise elimination method was employed to deal with missing values.

The qualitative responses of the open-ended answers were analyzed by considering different methodological recommendations to ensure the quality of the results (Chatfield, 2018). In the first phase of the analysis, content analysis (Braun & Clarke, 2012, 2013, 2014, 2021; Hsieh & Shannon, 2005) was used to analyze the testimonies provided by people who had committed some type of violence. The first author analyzed the participants’ responses and used an inductive approach to identify general categories related to motivations for engaging in TFGSV. To enhance internal validity, the authors reviewed and reached agreement on the content and number of categories (Suárez et al., 2013).

**Table 1** Prevalence of TFGSV and gender and age differences in TFGSV perpetration

	Gender				$\chi^2$	Age				$\chi^2$
	Total n = 2,316	Men n = 680	Women n = 1,598	Non- binary n = 38		18–24 n = 1,250	25–34 n = 652	35–44 n = 205	> 45 n = 209	
Passive TFGSV Perpetration	4.8%	7.5% <sup>a</sup>	3.5% <sup>a</sup>	10.5%	19.442***	4.4%	4.4%	6.9%	6.2%	3.440
1. You have posted or shared degrading images, videos, or writings that inappropriately attack women.	3.7%	5.7% <sup>a</sup>	2.6% <sup>a</sup>	10.5% <sup>a</sup>	18.136***	3.1%	3.7%	5.9%	4.8%	4.627
2. You have posted or shared degrading images, videos, or writings that inappropriately attack people for being homosexual, bisexual, asexual, or non-heterosexual.	2.7%	4.3% <sup>a</sup>	1.9% <sup>a</sup>	7.9% <sup>a</sup>	13.667**	2.7%	2.3%	4.9% <sup>a</sup>	1.9%	4.599
3. You have posted or shared degrading images, videos, or writings that inappropriately attack people for being trans.	2.3%	3.9% <sup>a</sup>	1.5% <sup>a</sup>	8.3% <sup>a</sup>	16.767***	2.6%	1.3% <sup>a</sup>	4.5% <sup>a</sup>	2%	7.580
Active Perpetration of Gender-Based Violence	22.6%	25%	21.5%	23.7%	3.454	23.6%	22.9%	24.4%	13.4% <sup>a</sup>	11.285**
<i>Gender role-based violence</i>	5%	6.3% <sup>a</sup>	4.4% <sup>a</sup>	5.3%	3.824	5.2%	5.1%	3.9%	4.3%	0.842
1. You have insulted a woman for looking “too masculine” or doing “manly things.”	1.6%	2.5% <sup>a</sup>	1.1% <sup>a</sup>	5.3%	9.027*	1.9%	1.2%	1.5%	1%	1.965
2. You have made fun of a woman for looking “too masculine” or doing “manly things.”	4.1%	5.3%	3.6%	5.3%	3.750	4.2%	4.4%	3.4%	3.3%	0.756
3. You have humiliated, belittled, or made a woman feel inferior for looking “too masculine” or doing “manly things.”	1.5%	2.8% <sup>a</sup>	0.9% <sup>a</sup>	5.3%	15.444***	1.8%	0.6%	2%	1.9%	4.932
4. You have discriminated against a woman or excluded a woman from an online group, forum, or chat for looking “too masculine” or doing “manly things.”	1.1%	1.9% <sup>a</sup>	0.7% <sup>a</sup>	5.3% <sup>a</sup>	12.415*	1.4%	0.6%	2%	0.5%	4.210
<i>Physical appearance-based violence</i>	18%	16.8%	18.6%	13.2%	1.761	19%	18.7%	18.5%	9.1% <sup>a</sup>	12.416**
5. You have insulted a woman because of her physical appearance.	6.4%	5.6%	6.8%	5.4%	1.153	7.2%	6.1%	6.3%	2.4% <sup>a</sup>	7.018
6. You have made fun of a woman because of her physical appearance.	16.1%	15.3%	16.5%	13.2%	0.780	16.7%	16.7%	17.6%	9.1% <sup>a</sup>	8.463*
7. You have humiliated, belittled, or made a woman feel inferior because of her physical appearance.	3.8%	3.8%	3.7%	7.9%	1.795	4.6% <sup>a</sup>	3.8%	2%	0.5% <sup>a</sup>	10.655*
8. You have discriminated against a woman or excluded a woman from an online group, forum, or chat because of her physical appearance.	1.8%	2.6% <sup>a</sup>	1.3% <sup>a</sup>	5.3%	7.584*	2%	2%	1.5%	0%	4.444
<i>Feminist ideology-based violence</i>	8.2%	15.8% <sup>a</sup>	4.8% <sup>a</sup>	15.8%	78.470***	9.2%	6.6%	8.3%	7.2%	4.138
9. You have insulted a woman for expressing or defending feminist issues.	3.4%	7.4% <sup>a</sup>	1.6% <sup>a</sup>	10.5% <sup>a</sup>	54.448***	4.1%	2.9%	2.4%	1.9%	4.196
10. You have made fun of a woman for expressing or defending feminist issues.	6.7%	13.2% <sup>a</sup>	3.9% <sup>a</sup>	10.5%	67.268***	7.4%	5.5%	8.3%	5.3%	3.793
11. You have humiliated, belittled, or made a woman feel inferior for expressing or defending feminist issues.	3.2%	6.5% <sup>a</sup>	1.7% <sup>a</sup>	7.9%	37.977**	3.6%	2.9%	2.4%	2.4%	1.647

Table 1 (continued)

	Gender				$\chi^2$	Age				$\chi^2$
	Total n=2,316	Men n=680	Women n=1,598	Non- binary n=38		18–24 n=1,250	25–34 n=652	35–44 n=205	>45 n=209	
12. You have discriminated against a woman or excluded a woman from an online group, forum, or chat for expressing or defending feminist issues.	2.4%	4.6% <sup>a</sup>	1.3% <sup>a</sup>	13.2% <sup>a</sup>	40.986***	3% <sup>a</sup>	1.5%	2.4%	1.4%	5.069
<i>Sexual orientation–based violence perpetration</i>	3.7%	7% <sup>a</sup>	2.2% <sup>a</sup>	7.9%	32.328***	4.3%	2.3% <sup>a</sup>	2.4%	5.3%	7.377
1. You have insulted someone for being homosexual, bisexual, asexual, or non-heterosexual.	1.3%	2.9% <sup>a</sup>	0.6% <sup>a</sup>	5.3% <sup>a</sup>	25.015***	1.8%	0.8%	1%	1%	3.730
2. You have made fun of someone for being homosexual, bisexual, asexual, or non-heterosexual.	2.8%	5.6% <sup>a</sup>	1.5% <sup>a</sup>	7.9%	33.084***	3.4%	1.5% <sup>a</sup>	2.4%	3.8%	6.219
3. You have humiliated, belittled, or made someone feel inferior for being homosexual, bisexual, asexual, or non-heterosexual.	1%	1.9% <sup>a</sup>	0.5% <sup>a</sup>	5.3% <sup>a</sup>	16.871***	1.4% <sup>a</sup>	0.5%	0.5%	0.5%	5.534
4. You have discriminated against someone or excluded someone from an online group, forum, or chat for being homosexual, bisexual, asexual, or non-heterosexual.	1%	1.9% <sup>a</sup>	0.4% <sup>a</sup>	5.3% <sup>a</sup>	18.720***	1.4% <sup>a</sup>	0.5%	0.5%	0.5%	4.861
<i>Gender identity–based violence</i>	2.4%	4.8% <sup>a</sup>	1.4% <sup>a</sup>	2.7%	22.251***	2.8%	1.6%	3.5%	1.5%	4.404
1. You have insulted someone for being trans.	0.8%	2.4% <sup>a</sup>	0.2% <sup>a</sup>	0%	27.360***	1%	0.5%	1.5%	0%	4.426
2. You have made fun of someone for being trans.	2%	4.8% <sup>a</sup>	0.8% <sup>a</sup>	2.7%	38.527***	2.6% <sup>a</sup>	0.8% <sup>a</sup>	2.5%	1.5%	7.282
3. You have humiliated, belittled, or made someone feel inferior for being trans.	0.8%	1.8% <sup>a</sup>	0.4% <sup>a</sup>	2.7%	12.643*	1%	0.8%	0.5%	0%	2.673
4. You have discriminated against someone or excluded someone from an online group, forum, or chat for being trans.	0.9%	1.9% <sup>a</sup>	0.4% <sup>a</sup>	2.7%	14.302**	1.4% <sup>a</sup>	0.2% <sup>a</sup>	1%	0%	8.940*
Total	25.6%	29.6% <sup>a</sup>	23.8% <sup>a</sup>	28.9%	8.606*	26.2%	25.6%	29.3%	17.7% <sup>a</sup>	8.566*

Note. Prevalence refers to participants who reported having committed some form of violence at least once in the last 12 months

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . <sup>a</sup> Standardized residuals  $\pm 1.96$

In the second phase of analysis, similar to what has been done in previous qualitative work (e.g., Kerrick and Henry, 2017; Morgan and Davis-Delano, 2016), the first and second authors independently coded each individual response to identify the presence or absence of each theme. Manual coding was employed for this analysis. Several themes could be present in a single participant's response. Krippendorff's alpha was used to calculate the inter-rater reliability between the two coders (Hayes & Krippendorff, 2007). Any coding disagreements were discussed and resolved by consensus. Finally, the frequency of each theme was calculated to determine which motivations were most prevalent.

## Results

The results revealed that 25.5% of the participants ( $n = 591$ ) had engaged in some form of TFGSV. All of these participants were asked about their reasons for engaging in TFGSV behaviors, and 256 responded to the open-ended questionnaire. In total, 312 responses were analyzed. Of these, 21 were removed because their contents were not meaningful (e.g., "I did it because I wanted to" or "I do not want to give any explanation"). Finally, 291 testimonies from 239 participants (61.5% women, 36.4% men, 2.2% non-binary) aged 18–60 years ( $M = 26.3$ ;  $SD = 8.38$ ) were analyzed. Of these testimonies, 169 were from women (58.08%), 116 were from men (39.86%), and 6 were from non-binary

people (2.06%). The quantitative and qualitative results are presented below.

### Prevalence of TFGSV and Age and Gender Differences in TFGSV Perpetration

The data showed that 25.6% of the participants had engaged in at least one form of TFGSV. Table 1 presents the prevalence of perpetration of each form of violence in the last 12 months and summarizes the perpetrators' gender and age differences. The most prevalent form of TFGSV was gender-based harassment (22.6%), specifically physical appearance-based harassment (18%). The prevalence of individual behaviors ranged from 0.8% for humiliating or insulting someone for being trans to 16.1% for making fun of a woman because of her physical appearance.

Regarding gender differences, the prevalence of general TFGSV perpetration was significantly higher in men (29.6%) than in non-binary participants (28.9%) and women (23.8%),  $\chi^2(3, N=2,316)=8.60, p<.05$ , Cramer's  $V=0.061$ . The analysis of the different types of TFGSV reflects that men also engage in significantly more passive violence,  $\chi^2(3, N=2,315)=19.44, p<.001, V=0.092$ , feminist ideology-based violence,  $\chi^2(3, N=2,313)=78.47, p<.001, V=0.184$ , sexual orientation-based violence,  $\chi^2(3, N=2,311)=32.32, p<.001, V=0.118$ , and gender identity-based violence,  $\chi^2(3, N=2,263)=22.25, p<.001, V=0.099$ . The analysis of the specific behaviors reflects that non-binary participants (5.3%,  $SR=2.4$ ) and men (1.9%,  $SR=2.3$ ) were more likely than women (0.7%) to discriminate against women or exclude a woman from an online group, forum, or chat for looking "too masculine" or doing "manly things,"  $\chi^2(3, N=2,315)=12.415, p<.05, V=0.073$ . The results also revealed that men (13.2%,  $SR=4.3$ ) and non-binary people (4.6%,  $SR=4.3$ ) were more likely than women (1.3%) to discriminate against women or exclude other women from an online group, forum, or chat for expressing or defending feminist issues,  $\chi^2(3, N=2,311)=40.98, p<.001, V=0.133$ . Men were the main perpetrators of the rest of the specific behaviors in which significant differences were found.

Regarding age, to facilitate future comparisons between studies, the comparison groups were established based on those used in previous research on TFSV in adults (e.g., Gámez-Guadix et al., 2015; Powell and Henry, 2019). The prevalence of TFSV perpetration was more common in individuals 18–24 years old (26.2%), 25–34 years old (25.6%), and 35–45 years old (29.3%) than in the older age group (17.7%),  $\chi^2(3, N=2,316)=8.566, p<.05, V=0.061$ . The analysis of the different types of TFSV revealed that the group over 45 years of age also perpetrated significantly less gender-based violence,  $\chi^2(3, N=2,313)=11.285, p<.01, SR = -3.3, V=0.70$ , and less physical appearance-based

violence,  $\chi^2(3, N=2,316)=12.416, p<.01, SR = -3.5, V=0.073$ , than the other age groups. In terms of specific behaviors, the results revealed that the 18–24 age group discriminated against someone or excluded someone from an online group, forum, or chat for being trans significantly more than the other groups (1.4%,  $SR=2.7$ ) and that the 25–34 age group did so significantly less (0.2%,  $SR = -2.3$ ) than the other groups,  $\chi^2(3, N=2,263)=8.940, p<.05, V=0.63$ .

### Motivations Behind TFGSV Behaviors

We conducted a qualitative content analysis (Hsieh & Shannon, 2005) to identify the general motivations of the participants who had perpetrated TFGSV. From the analysis conducted, six general categories emerged regarding the motivations for engaging in TFGSV: (1) expressing ideological disagreement; (2) expressing rejection of someone; (3) self-defense and defense of others; (4) managing unpleasant emotions; (5) socializing; and (6) lack of reflection or awareness. A seventh category was also identified: the motivation to denounce violence rather than to exercise it. This category was included because it reflects the importance of going beyond the form of TFGSV behaviors to analyze their function. For all categories, Krippendorff's alpha was greater than 0.83, demonstrating good inter-rater validity. Table 2 presents a detailed description of the categories, as well as their examples, frequencies, and Krippendorff's alpha values. The descriptions of these categories are also given below, along with several content units representative of each category.

#### Expressing Ideological Disagreement

The most frequent motivation (31.27%) for engaging in TFGSV was to express ideological disagreement. This theme included those testimonies in which participants alluded to the other person's opinion or ideology as a way of justifying having exercised some form of TFGSV. As seen below, this disagreement was due to the rejection of feminist ideas, feminist people, or more general political issues. Among the testimonies included in this category, 26.6% of women, 37.1% of men, and 50% of non-binary persons acknowledged this motivation.

To defend feminist theories or policies that, I believe, exclude many women. (Cis Woman, 24)

She was a TERF [trans-exclusionary radical feminist]. I tried to debate, but she didn't want to. (Cis Woman, 33)

**Table 2** Emergent themes, description, and frequency of motivations for engaging in TFSV

Theme	Description of category	Example	Frequency (%)	Krippendorff's Alpha	Percent of agreement
Expressing ideological disagreement	Violence committed to express ideological disagreement with feminist individuals, specific feminist theories, or more general political issues	"Feminism is tremendous bullshit. They play the victim on the internet and then complain when you share an example with arguments. Most have no idea what they are saying and base their views on the opinions of public figures. They fight for unequal 'equality.' That's why I think feminism is the biggest bullshit in Spain nowadays."; "I did it because we differed in our opinions on whether Trans Law is feminist or not. I am of the opinion that it is not, [but] many people are of the opinion that it is."	31.27%	0.833	92.8%
Expressing rejection of someone	Violence committed to express rejection of someone because of their personality, physical appearance, identity, or behavior	"I criticized his physical appearance as an extension of not liking his personality."; "I did it because she was very annoying."; "I did it because I didn't like their clothes and exorbitant plastic surgery."; "I found the way she was dressed funny."	21.99%	0.838	94.5%
Self-defense and defense of others	Violence committed in response to previous attacks, either against oneself or others	"TERFs (transphobic women) attack trans people, and I sometimes defend them, so it could be considered hate writing (sometimes degrading)."; "I did it to defend myself from attacks."; "Because she called me 'hetero-basic' and said I had fragile masculinity."	7.21%	0.846	97.9%
Managing unpleasant emotions	Violence committed because of emotions of anger or rage	"I did it out of anger or resentment or as a result of getting along badly with that person."; "I guess it was at a time when that person had given me a negative feeling or made me angry."; "They were people who had committed some negative act toward me, and I insulted their appearance to vent my emotions."	9.62%	0.882	97.9%
Socializing	Violence committed for the purpose of making jokes, fitting in, sharing opinions with friends, or indulging in peer group dynamics	"I specifically remember one occasion that made me feel like a bit of an asshole afterwards—when I was with friends and got carried away and threw fuel on the fire looking for a laugh and a pat on the shoulder."; "I did it as part of a joke."; "I did it because I wanted to act funny."	27.14%	0.956	98.3%
Lack of reflection or awareness	Violence committed by not being aware at the time the act was carried out	"Without thinking about it, I have commented on a woman's appearance, criticizing it."; "At the time, I did not think about the other person."; "I think it is something intrinsic—sexist or fatphobic behaviors—that I try to correct little by little."	19.24%	0.896	96.9%
Awareness-raising and reporting of violence	Sharing violent content not as a way to exercise violence but as a way to denounce it	"I do it to raise awareness, as a criticism of everything we go through."; "I did it to make people aware of what is happening in society."; "I did it to raise awareness about the harassment that all these minority groups suffer, to give them a voice and make a public denouncement about the cases of harassment that seem to be forgotten."	6.18%	1	100%

Note. Frequency refers to the percentage of analyzed testimonies that fit into each of the themes

When I have fervently criticized a feminist, it has either been for maintaining, sustaining, or reproducing feminist behaviors or thoughts that were trans-exclusionary (TERF) or for having a biased analysis of gender relations that led to unjustified misandry [irrational hatred of men]. (Non-binary Person, 26)

[I have engaged in violence]to support or defend ideas that go against men's rights (e.g., gender violence laws, excluding men from public assistance or care, or reserving public job positions for women). (Cis Man, 20)

## Rejecting Someone

Some responses (21.99%) suggested that what motivated participants to practice TFGSV was a desire to show rejection toward someone. This theme included those testimonies in which participants alluded to aspects of the targeted person that they disliked as a way of justifying having engaged in TFGSV. As can be seen in the examples below, people were rejected because of their personality, behavior, physical appearance, gender identity, or sexual orientation. Among the testimonies included in this category, 26.6% of women, 15.5% of men, and 16.7% of non-binary people referred to this motivation.



[About physical appearance] Because I simply didn't like her; it is usually easiest to pick on someone's appearance. (Cis Woman, 23)

It has coincided with defenses of aspects of a person's appearance that are clearly artificial, operated on, and botoxed and that they want to set as standards of beauty, which I flatly refuse. Perhaps that is why I have gone too far with my aggression. (Cis Woman, 45)

[About homosexual or bisexual people] Sometimes, I get irritated by the way they express themselves. I think masculinity is something important, and these people have sometimes attacked it, to which I have responded with mockery or insult. (Cis Man, 19)

[About trans people] It is an illness and should be treated as such. (Cis Man, 25)

### Self-defense and Defense of Others

Another motivation that participants mentioned for engaging in TFGSV is responding to previous attacks (7.21%), both on oneself and on third parties. This theme encompasses testimonies in which participants justified their engagement in TFGSV by referring to prior violent behavior exhibited by the targeted individuals. They perceived their actions as a response to previous attacks directed toward themselves or third parties. By invoking the concept of self-defense and the defense of others, these participants sought to rationalize their perpetration of TFGSV. Among the testimonies included in this category, 7.7% of women and 6.9% of men referred to this motivation.

I did it so that a girl who was insulting my appearance would stop picking on me. (Cis Woman, 18)

Debating is good, and I work as a mirror. If the debate is calm and friendly, I go the same way, but if they insult me first, I go to irony, and if the other person escalates, I do too. (Cis Man, 40)

Because she was laughing at someone else. (Cis Woman, 38)

Because she was abusing her freedom by offending those who did not share her point of view. (Cis Man, 21)

### Managing Unpleasant Emotions

Some responses (9.62%) also mentioned that one of the perpetrator's motivations for engaging in TFGSV was the experience of anger or rage. This theme included those testimonies in which participants alluded to feelings of frustration or being fed up with the targeted individuals as a way of justifying having engaged in TFGSV. Engaging in TFGSV could be a means of coping or managing unpleasant emotional states. Among the testimonies included in this category, 11.2% of women, 6.9% of men, and 16.7% of non-binary people referred to this motivation.

It has been in a situation of anger, rage, or being fed up with the other person. (Cis Woman, 41)

They caught me in a bad mood and did something I didn't like, so I took the easy path of insulting their appearance. (Cis Woman, 25)

I did it out of spite. (Cis Man, 32)

### Socializing

It was also frequently mentioned (27.14%) that the goal of engaging in a form of TFGSV was to make jokes, fit in, share one's opinion with one's friends, or indulge in peer group dynamics. This theme encompasses testimonies in which participants justified their involvement in TFGSV by referencing social situations to rationalize their actions. By seeking to fit in, share their thoughts, and participate in social interactions, these individuals saw engaging in TFGSV as a way to meet their social needs. A total of 38.8% of men, 19.5% of women, and 16.7% of binary people referred to this motivation.

Making fun of someone because of their physical appearance is a quick and easy way to make a joke, to make people laugh. (Cis Man, 23)

Because I want to fit into my social context. (Cis Woman, 18)

I followed the thread of a conversation, because if I didn't, I would've "cut the thread." (Cis Man, 21)

Because of the trust and level of humor we have with each other. (Cis Woman, 18)

I shared the publication to discuss it with a friend. (Cis Male, 18)

### Lack of Reflection or Awareness

The participants also reported not being aware that they were engaging in some form of TFGSV at the time they did so (19.24%). This theme included those testimonies in which participants, instead of expressing a specific motivation, alluded to a lack of knowledge or reflection at the time as a way of justifying having engaged in TFGSV. A total of 24.9% of women and 12.1% of men referred to this motivation.

A lot of times, I only become aware after the fact, and then I try to change it. (Cis Woman, 23)

I think we have all made hateful comments or posts at some point, since we live in a society full of prejudices, stereotypes, sexism, etc. So, for each of these questions, I have done things either consciously or unconsciously. (Cis Man, 24)

### Awareness-Raising and Reporting of Violence

Finally, a seventh category was identified that reflected a motivation related not to the exercise of violence but to the reporting and prevention of it. In this respect, some testimonies (6.18%) indicated that participants had shared hate content generated by other people with the aim of raising awareness and denouncing the existence of various types of violence. This theme included those testimonies in which it was specified that the objective was not to engage in TFGSV but, rather, to make it visible. A total of 9.5% of women, 0.9% of men, and 16.7% of non-binary people referred to this motivation.

If I have published any hate writing toward women or the LGBTIQ+ community, it has been regarding information, texts, or phrases uploaded by people full of hate, and my intention has only been to raise awareness of what unfortunately still exists. (Cis Woman, 22)

I did it to make injustice visible. (Cis Woman, 36)

### Discussion

This study analyzed the prevalence, age and gender differences, and motivations of TFGSV offenders. The results revealed that a high percentage of people (25.6% of the sample) had engaged in some form of TFGSV in the

previous 12 months. In addition, the study revealed that TFGSV is perpetrated primarily by men. Overall, the total prevalence of TFGSV tends to be lower in older age groups (> 45 years old). Regarding the motivations for TFGSV, it was found that their main reasons for perpetrating TFGSV were expressing ideological disagreement, rejecting someone, self-defense or defending others, managing unpleasant emotions, socializing, and lack of reflection or awareness. Interestingly, it was also found that some individuals shared hateful content with the intention of raising awareness of this type of aggression and making it visible to others. These findings are discussed in more detail below.

### TFGSV Perpetration: Prevalence, Gender and Age Differences

Concerning prevalence, the most frequent form of TFGSV was physical appearance-based violence (18%), while the less frequent forms were sexual orientation-based violence (3.7%) and gender identity-based violence (2.4%). These results are similar to those reported in previous research (Donoso-Vázquez et al., 2017; Varela et al., 2021). Physical appearance-based violence may be prevalent because the imposition of beauty standards is one of the most normalized forms of violence against women (Felmlee et al., 2020; Varela et al., 2021). As it is also a prominent characteristic of people, it is an easy target of violence. In fact, our qualitative results reflect that many perpetrators of violence allude to appearance as an “easy target” to attack. On the other hand, a person’s sexual orientation or gender identity are not observable characteristics and can only be known when a person decides to disclose them. Hence, the lower percentage of violence toward these groups could be related to this and not necessarily to a lower presence of homophobia or transphobia.

In terms of age, no significant differences were found between age groups, except in the case of the group over 45 years of age, who were found to perpetrate less gender-based violence overall. Studies on online victimization in adults, such as those carried out by Gámez-Guadix et al. (2015) and Powell and Henry (2019), also show that the incidence of online violence is lower in this sector of the population, which could be explained by their less frequent use of technology (Spanish National Observatory of Technology and Society, 2017). However, the fact that the overall prevalence of TFSV perpetration is lower in the over-45 age group does not mean that it does not occur among older adults. In fact, in the case of many specific forms of TFSGV (i.e., sexual orientation-based violence, gender identity-based violence, feminist ideology-based violence, gender role-based violence, and passive TFGSV), no significant differences between age groups have been found. Therefore,

TFSV is not a problem exclusive to adolescents and young adults.

Regarding gender, men appear to be the main perpetrators of most forms of TFGSV, a finding that coincides with the previous literature on TFSV (Backe et al., 2018; Donoso-Vázquez et al., 2017; Varela et al., 2021). However, in the case of gender-based violence, the gender of the perpetrator seems to vary depending on the specific type of violence. For example, no significant differences were found in the case of physical appearance-based violence. In this regard, it should be noted that these interactions occur within a social system of stereotypical beliefs, of which women are also a part. In this sense, as Wilhelm and Joeckel (2019) found, women can be just as judgmental of other women as men are, especially with the normalized imposition of having an attractive physical appearance. Likewise, men and non-binary people show a significantly higher prevalence than women regarding behaviors related to discriminating against or excluding women from online groups, forums, or chats, both for looking “too masculine” or doing “manly things” and for expressing or defending feminist issues. The involvement of women and non-binary people in TFGSV could be due to different motivations, such as responding to previous attacks or expressing ideological disagreements related to feminism. This is reflected in the results related to the second objective of this study.

### Motivations for TFGSV

The study’s second objective was to explore why people engage in TFGSV. The motivations that emerged were similar to those reported in studies on other forms of violence, such as hate speech and cyber aggression (Ballaschk et al., 2021; De Marsico et al., 2022; Pinker, 2011; Wachs et al., 2022). Participants’ most common explanation for why they became involved in TFGSV was an *intention to express ideological disagreement*. It was common for men to refer to using this type of violence because they believe that feminists go against their rights. Discrepancies within feminist movements were also frequently alluded to, such as debates between specific sectors of feminism and the queer movement (e.g., Zanghellini, 2020). This coincides with the tensions existing in Spanish society nowadays, where the debate on whether trans women are women is highly present (BBC, 2022; El País, 2021). This could lead some women and non-binary people involved in the debate to engage in certain forms of TFGSV to defend their position, thus explaining why the prevalence of some gender-based violent behaviors exceeds those exercised by men.

Another motivation reported by participants was *self-defense or defense of others*, which could explain why women and non-binary people, as populations that are often

victimized (Powell & Henry, 2019; Powell et al., 2020), engage in some types of TFGSV as a response to previous attacks. Accordingly, some studies show that violence can be bidirectional and that perpetrators may also be victims (Patchin & Hinduja, 2020; Powell et al., 2019; Taylor et al., 2019). Being aware of this dynamic is important when designing prevention programs that provide people with resources to defend themselves without the use of violence.

*Socializing* was also a frequent motivation for engaging in violence. Participants alluded to group dynamics, the need to fit in, and the desire to make people laugh when explaining why they had engaged in TFGSV. In this regard, Wachs et al. (2022) found that the perpetration of hate speech could be influenced by peer pressure and the normalization of these behaviors in social environments. Similarly, it has been found that the negative influence of peer groups is a risk factor for normalizing and developing sexual and gender-based violence perpetration and victimization behaviors, both online and offline (Choi et al., 2017; Zhong et al., 2020). In this study we found that this motivation was more prevalent among men, suggesting that the practice of TFGSV is more normalized and reinforced within male social dynamics, which could make them more prone to engage in violence. Considering this, attention should be paid to social norms that may validate and normalize this violence, especially in the online context, where a particular behavior (e.g., posting a hateful comment) can remain indefinitely visible, thus normalizing the perpetration of TFGSV.

*Expressing rejection of someone and managing unpleasant emotions* were also frequent motivations among the study participants. These motivations could indicate the involvement of factors such as emotional mismanagement in the perpetration of TFGSV (Garofalo et al., 2018). Finally, it should be noted that many testimonies alluded to a *lack of reflection or awareness*, which was more prevalent among women, when explaining why they had engaged in some form of violence. In this regard, Zhong et al. (2020) found that online disinhibition can increase an individual’s predisposition to perpetrate TFSV. In addition, the analysis of the testimonies resulted in a category that did not align with the perpetration of violence but instead with the intention of *raising awareness and reporting violence*. This motivation was also reported more often by women, demonstrating their heightened consciousness and active engagement in the prevention of TFGSV.

### Limitations and Future Research Directions

This study has several limitations that should be considered. First, the results are based on self-report data. Given the highly sensitive nature of the topic, a bias could have been

introduced into the responses due to problems related to self-reporting (e.g., social desirability bias). In other words, although the participants were informed that their responses were anonymous, some may have been reluctant to admit that they had committed a type of TFGSV. The participants' self-reported motivations provided valuable qualitative information that allowed us to begin investigating this phenomenon. However, it would be advisable to use in-depth qualitative techniques, such as focus groups or interviews, to deepen our knowledge of how beliefs and social norms motivate or are related to these behaviors.

Moreover, the qualitative analysis of the participants' motivations revealed that some participants claimed to have perpetrated passive TFGSV with the objective of making the existence of violence visible. This reflects the existence of false positives, so the prevalence of TFGSV may be overestimated. Lastly, the results suggest that the perpetration of TFGSV may be related to other variables, such as difficulties in emotional regulation, sexist beliefs, gender stereotypes, or having been a victim of some form of online violence. However, given that these results are qualitative, it is necessary to be cautious when establishing temporal relationships. Future quantitative and longitudinal studies should analyze the temporal relationships between these variables and the perpetration of TFGSV.

### Practice Implications

The results of this work may help to improve TFGSV prevention. To date, most existing programs regarding cyberhate seem to have focused on providing tools to victims rather than on preventing and addressing perpetration (Blaya, 2019). The findings from this study may help shift the focus of prevention onto perpetrators, which is important to avoid placing all the responsibility for preventing violence on victims. Specifically, the results suggest that TFGSV perpetration is a phenomenon that, despite occurring mostly in younger populations, is present in all age groups. Therefore, professionals should take this information into account and target adult populations. Additionally, the results suggest that men are the main perpetrators of most types of TFGSV, so interventions should be implemented in a gender-sensitive manner.

The results of this study also provide insight not only into the profile of the perpetrators but also into their motives for perpetrating violence. This may improve the understanding of the dynamics of this form of online violence and help professionals involved in the prevention of online violence. Some of the motivations we found responded to goals that could be achieved without using violence (e.g., expressing ideological disagreement and socializing), so educators could prevent this problem by providing people with

strategies to satisfy these needs in non-aggressive ways. Similarly, some participants reported experiencing unpleasant emotions (i.e., anger, and rage) at the time they engaged in TFGSV, suggesting that the teaching of appropriate emotional regulation strategies could be useful in preventing this form of online violence. Finally, the findings of this study indicate that many of the participants engaged in violence because they did not reflect on their actions at the time they committed the act, or were unaware that their actions were harmful. Therefore, to prevent such behaviors, it seems essential to teach internet users to identify the consequences of their actions.

### Conclusion

To our knowledge, this is the first study to directly analyze the perpetration of different forms of TFGSV among adults and to explore the motivations behind these behaviors. The present study provides valuable information on TFGSV and the characteristics and motivations of its perpetrators, which can help in designing appropriate interventions. TFGSV perpetration is a prevalent issue among all ages and although men are the main perpetrators of TFGSV, women and non-binary people also commit such violence. Furthermore, the present study provides insight into why people engage in TFGSV and lays new groundwork for subsequent studies. Prevention and intervention programs should target all age groups, consider all the different motivations behind the perpetration of this form of violence, and raise awareness of the problematic nature of some socially normalized behaviors.

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

### Declarations

**Ethics approval** This study was performed in line with the principles of the Declaration of Helsinki. Approval was granted by Ethics Committee of Autonomous University of Madrid.

**Consent to participate** Participants provided informed consent to participate in this study.

**Competing interests** The author declares no competing interests.

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