methaodos.journal of social sciences (2023) 11(1) m231101a04

Gender inequality and violence in video games: An analysis from the videogame experiences of youth

Gender inequality and violence in video games: a study from videoludic experiences of young people

Daniel Calderón Gómez ÿ danielcalderon@ucm.es ÿ Corresponding author
Complutense University of Madrid, Spain

Alejandro Gomez Miguel ÿ agomez@fad.es
Queen Sofia Center for Adolescence and Youth, FAD Youth Foundation. Spain

10.17502/mrcs.v11i1.648

Received: 01-30-2023
Accepted: 15-03-2023

Summary

In recent decades, we have witnessed the consolidation of video games as one of the main sources of leisure for young people. However, with the rise of online multiplayer video games, based on competitiveness and anonymity, practices of hate, violence and harassment have also emerged that affect the gaming experience of players and, especially, of female players. Therefore, this article analyses the attitudes, experiences and perceptions of male and female video game players from a gender perspective, among which experiences of violence, intimidation and harassment stand out, especially in online games. A quantitative methodology is proposed through a survey of a representative sample of 1,200 young people between 15 and 29 years old and an analysis plan based on factor analysis of principal components, cluster analysis and multivariate analysis of variance. The main results are a greater comparative preference of women towards single-player games and a greater propensity to hide their identity in online games. Furthermore, bullying and harassment are widespread among online gamers and particularly affect those who play video games more frequently.

Keywords: digital leisure, youth studies, sexism, *gaming,* harassment.

Abstract

During the last decades video games rose as one of the main forms of leisure among young people. Nevertheless, because of the emergence of multiplayer online games, based on anonymity and competitiveness, new practices of hate, violence and harassment have also arisen, affecting gamers' experiences of play, particularly among women. Therefore, in this paper we analyze the attitudes, experiences and perceptions of video game players from a gender perspective, including situations of violence, intimidation and harassment, particularly in online gaming. It is based on a survey quantitative methodology from a representative sample of 1200 youngsters between 15 and 29 years old and a statistical plan based on principal components analysis, cluster analysis and multivariate variance analysis. As main results, it stands out the higher comparative preference of women about one player games and a higher propension of hiding their identity in online gaming. Moreover, harassment and intimidation is generalized among online players; in the case of women, it particularly affects those women who play video games more frequently.

Keywords: *digital leisure, youth studies, sexism, gaming, harassment.*

Summary

How to cite this article

Calderón Gómez, D., and Gómez Miguel, A. (2023). Gender inequality and violence in video games: an analysis from the videogame experiences of youth. *methaodos.revista de ciencias sociales,11(1),* m231101a04. http://dx.doi.org/10.17502/mrcs.v11i1.648

1. Introduction

In recent decades, video games have become a global cultural phenomenon that crosses social, generational and gender barriers, being present in the daily lives of a large part of the population. During the boom of video games in the 1990s (Herz, 1997), the video game industry was linked to a specific market niche: children and men, with a geek or geeky orientation and a population interested in technology. Currently, this industry is a consolidated and enormously diversified entertainment sector that generates huge economic benefits throughout the planet. The latest yearbook presented by the Spanish Video Game Association (AEVI) (2021) estimates that in 2021 there were more than 18 million players in Spain, reaching a turnover of 1,795 million euros, with an indirect impact on the Spanish economy of 3,577 million euros and generating direct employment for more than 9,000 people. Furthermore, its penetration in society seems to be increasing, reaching a very high number of gamers among the younger generations: approximately 3 out of 4 adolescents and young people play video games in Spain (Calderón Gómez and Gómez Miguel, 2022).

Despite this enormous growth and the progressive diversification of genres, game modes and platforms, video games are still largely associated with men and masculinity.
This occurs even when, currently, among young people, practically half of the players are women (by Matías Batalla and Quartucci, 2022, p. 24). Among the reasons we find, on the one hand, a *gamer* culture (Kuss *et al.,* 2022; Shaw, 2012; Vermeulen *et al.,* 2017) closely linked to masculinity and values such as competitiveness, dedication and a high level of skills, which excludes occasional or *casual* players who do not fit this stereotypical *hardcore gamer profile.* In this context, women who play video games do not usually identify themselves as *gamers,* feeling attacked for not fitting the stereotype of exclusive dedication to the world of video games, which in certain circumstances is hostile to them (Kuss *et al.,* 2022; Vermeulen *et al.,* 2017). On the other hand, in recent years, specific situations of violence, harassment and intimidation suffered by women linked to the world of video games due to the fact that they are women have begun to be highlighted. These types of forms of violence affect female gamers on a daily basis, who show a greater propensity to hide their identity when playing online multiplayer video games, even producing situations of sexual harassment and assault (Burnay *et al.,* 2019; Tang *et al.,* 2020). It also affects women dedicated to the video game sector, such as designers, programmers, presenters, reporters, content creators or professional gamers (DEV, 2022; Isaaman and Tolaine-Sage, 2022; Méndez Martínez, 2017). One of the most recent cases was the *GamerGate* case (Aghazadeh *et al.,* 2018), an online harassment campaign organized on various platforms (Reddit, 4chan, etc.) towards several women dedicated to the video game industry.

Taking these issues into consideration, this article proposes a statistical analysis of youth's videogame experiences. As research questions, we ask: is there a relationship between negative experiences and situations of harassment during gaming and attitudes towards videogames? What differences do we find between the experiences of men and women?

In this way, we take into consideration the attitudes and perceptions about the world of video games and the personal situations experienced during their gaming practices, among which we find situations of harassment, intimidation and bullying. All of this from a gender perspective that takes into consideration the specific experiences and situations experienced by female players, since social research on video games has traditionally tended to focus on the problems of male players (Lopez-Fernandez *et al.,* 2019).

1.1. Video games and gender inequality

From the perspective of feminist and gender research, several lines of social research linked to the world of video games have been developed in recent years. Firstly, a classic line of research focuses on sexist stereotypes in video games (Gestos *et al.,* 2018; Mccullough *et al.,* 2020; Paredes Otero, 2022), studying the content, images and narratives present in the titles, that is, the production context, but leaving aside the experiences of players and especially female players - the reception context. Thus, aspects such as sexualized representation have been studied

of female characters, the subaltern roles that women occupy (damsel in distress, support or support to the main male character, woman as a prize, etc.) or the normalization of rape culture or structural machismo in narratives. There are even critical approaches to game mechanics as forms of language that transmit and reaffirm hegemonic masculinity (Brusint, 2020). Although interesting, these contributions have two limitations: on the one hand, they leave aside the experience of the female players themselves by focusing on the analysis of the content and, on the other, there is still "a lack of research that directly connects the representation of women in video games with women's well-being" (Gestos *et al.,* 2018, p. 5). That is, there is a lack of empirical evidence on the scope and social impact of this cultural ecosystem on the daily lives of women. We find some exceptions, such as the study by Burnay *et al.* (2019), which suggests a connection between the sexualization of video games and online sexual harassment of women, or that of Mccullough *et al.* (2020), which shows how feminist awareness can help female gamers to be more critical of the sexist representation of women in video games. In a way, much of the progress in the criticism and analysis of video games is due to feminist criticism and the gender perspective, which have highlighted the bias of the video game industry, which renders women —and other social groups— invisible and reifies them (Flores Ledesma, 2020).

A second line of research, also focused on the production context, investigates the characteristics of the video game sector and the low presence of women in positions of responsibility within it (by Matías Batalla and Quartucci, 2022; Méndez Martínez, 2017). Thus, despite the fact that there are more and more women working in positions linked to the world of video games - graphic and creative design, programming, content creation, event presentation, professional *eSports players,* journalism and video game criticism - their presence is still small (around 20%), being especially affected by the wage gap (DEV, 2022; Isaaman and Tolaine-Sage, 2022). In addition, they occupy very few technical and creative management positions, which translates into less influence on the themes, narratives and content present in the titles. Likewise, in recent years, important cases of labour exploitation and sexual harassment have come to light in various companies in the sector, highlighting the famous *Gamergate* case (Ferguson and Glasgow, 2021), which show how, to a large extent, this industry continues to be hostile to women.

A third line of research is related to gender differences linked to game modalities and preferences (Afonso Noda and Aguilera Ávila, 2021; Campo Pereira, 2022; Gómez-Gonzalvo *et al.,* 2020). This is a descriptive approach, in which dimensions such as the types of genres preferred by women and men, the most used platforms or the game modalities (single-player games, online multiplayer games, etc.) are studied. Thus, a greater preference among women for single-player games and for genres focused on social simulation and strategy is highlighted, while among men, online multiplayer video games and action, *shooter* and adventure genres stand out comparatively. The main limitation of this perspective is that, despite the existence of a wide variety of studies on differential preferences by sex or age, there is hardly any research that delves into the motivations, attitudes and experiences of female players themselves regarding their gaming practices (Lopez-Fernandez *et al.,* 2019, p. 1). In the case of men, there is a long tradition of research on the experiential aspects of their videogame practices, especially in those investigations that highlight the problematic uses of video games (Chen *et al.,* 2018; González-Cabrera *et al.,* 2022; Kuss and Griffiths, 2012), linking them with situations such as addiction, disconnection from social life or competitiveness, which are more frequent among men and are associated with the social construction of a highly masculinized *gamer* identity (Paaßen *et al.,* 2017).

Finally, a fourth line of research is focused on harassment and intimidation situations present in the video game field (Aghazadeh *et al.,* 2018; Burnay *et al.,* 2019; Tang *et al.,* 2020). Although these types of situations are very frequent in the case of online multiplayer video games and affect both men and women, combining the perception of anonymity and impunity that the Internet allows with a strong sense of competitiveness, in the case of harassment received by women we find some distinctive characteristics. On the one hand, among women we find widespread harassment that goes far beyond the players themselves, affecting content creators, journalists or workers in the video game sector, as in the *Gamergate* case described above (Aghazadeh *et al.,* 2018; Ferguson and Glasgow, 2021). On the other hand, it is a type of harassment and intimidation focused on denigrating the identity of women as video gamers, as it is produced from the stereotype of a very masculinized *gamer* identity and associated with competitiveness and exclusive dedication to knowledge about

video games (Kuss *et al.,* 2022). As Vermeulen et al. point out, "the machismo of video game culture largely prevents women from identifying as gamers" (2017, p. 95). From this exclusionary perspective, women would not be true gamers –*hardcore gamers*–, but rather occasional gamers –*casual gamers*–, less committed to video game culture, supposedly less competitive and skilled than men (Paaßen *et al.,* 2017, p. 421). Beyond its veracity or falsity, this stereotype serves to establish a video game culture loaded with masculine values and exclusive towards women, who are seen as a minority of *outsiders* or intruders (Tang *et al.,* 2020, p. 128). It is also important to note that much of the harassment that women experience has a strong sexual content (Tang *et al.,* 2020, p. 129) and prevents women from participating freely on equal terms, which is why many female players choose to hide their identity and sex when playing online video games. In this way, the traditional exclusion from the public sphere that women suffer in other areas of social life also has its specific expression in the video game field.

1.2. Objectives and hypothesis

Based on these research axes, the general objective of this work is to investigate the videogame experiences of youth from the perspective of gender inequalities, connecting the perception and attitudes towards videogames of men and women with the personal experiences and situations experienced in gaming practices. We will focus, in a special way, on the situations of harassment and intimidation experienced during the game and their connection with positive and negative perceptions about the world of videogames. This general objective can be materialized in the following specific objectives.

The first objective is to analyse the different video game modalities present among young people, with special emphasis on gender differences. Although women already make up almost half of the gaming population (de Matías Batalla and Quartucci, 2022, p. 24), empirical research (Afonso Noda and Aguilera Ávila, 2021; Gómez-Gonzalvo *et al.,* 2020; Lopez-Fernandez *et al.,* 2019; Paaßen *et al.,* 2017; Tsai, 2017) shows a greater preference among women for single-player games and mobile games, in contrast to online multiplayer video games. In addition, among men we find a higher frequency of play which translates into a greater presence of video games in their daily lives.

From this point of view, we can put forward the first hypothesis:

H1. Among young women, we found a lower frequency of play and a higher comparative presence of single-player video games, compared to multiplayer games.

The second objective is to analyse the violence experienced during gaming practices. Previous research shows that, particularly in the case of online multiplayer video games, where interaction between players is more evident, situations of harassment, insults and bullying of other players are widespread, connecting with values such as extreme competitiveness and a very restrictive definition of what it means to be a true gamer – a *hardcore gamer* – (Paaßen *et al.,* 2017).

This particularly affects women, where this violence is intensified and manifests itself in situations of sexual harassment and assault that limit their gaming practices (Burnay *et al.,* 2019; Tang et al., 2020). Therefore, connected with this objective, we propose the following hypothesis:

H2. Women have experienced harassment, insults and intimidation in their video gaming practices more frequently than men.

The third objective is to investigate the perceptions and attitudes of male and female gamers towards video games. Due to the persistence of a masculinized stereotype of the authentic gamer or hardcore *gamer,* compared to occasional or casual gamers , women who play video games traditionally show greater reluctance to identify themselves with the *gamer* label (Afonso Noda and Aguilera Ávila, 2021; Kuss *et al.,* 2022; Paaßen *et al.,* 2017). Likewise, women have traditionally shown more negative attitudes towards video games than men, derived from their own experience with them (Campo Pereira, 2022). Thus, we can propose the last two hypotheses:

H3. For men, video games are a more important factor in shaping their identity than for women.

H4. Women have a more negative general perception of video games than men and younger youth.

2. Methodology

This study presents a quantitative methodology based on the online survey technique (Arroyo Menéndez and Finkel, 2019), based on a questionnaire to the young Spanish population (between 15 and 29 years old) about their digital entertainment and leisure practices and experiences, with a special focus on audiovisual content consumption habits, online content production practices, monitoring of content creators and video game consumption. The questionnaire was prepared by the Reina Sofía Center on Adolescence and Youth of the FAD Juventud Foundation as part of the research Consume, create, play. Overview of youth digital leisure (Calderón Gómez and Gómez Miguel, 2022). A self-administered online questionnaire was used to select 1,200 young people aged 15 to 29 living in Spain, using quota sampling: direct quotas were established by sex (50% men and women), by five-year age groups (15-19, 20-24 and 25-29 years) and by level of completed studies (up to compulsory secondary education, post-compulsory secondary education and higher). In addition, the data was weighted to adjust the results to the population distribution of young people by sex and age groups. Fieldwork was carried out between September and October 2021. For the assumption of simple random sampling, maximum variability (P=Q=0.50) and a confidence level of 95.5%, the sampling error is 2.8% (Table 1).

Table 1. Sample characteristics

Variable		Number of cases	Percentage (%)
Sex	Men	601	50,1
	Women	589	49,1
Age	15-19 years	384	32,0
	20-24 years	384	32,0
	25-29 years	432	36,0
Frequency of video game play	Never	148	12,4
	Less than once a week	300	25,3
	Every week	306	25,8
	Every day	446	37,6
Total		1200	100

Source: Own elaboration.

A multivariate analysis plan has been proposed that includes the performance of cluster analysis techniques (K-means), principal component factor analysis and multivariate analysis of variance (MANOVA). Firstly, to respond to the first hypothesis *(H1),* a typology of videogame profiles has been constructed from 5 variables on game frequency: (1) general frequency of videogame play; (2) single-player games; (3) face-to-face multiplayer games; (4) online multiplayer games with friends or acquaintances; (5) online multiplayer games with strangers. To do this, a

K-means cluster analysis with a 4-cluster solution that distributes the sample relatively evenly, as shown in Table 2: casual players, online players, individual players and intensive players. These 4 player profiles are analysed in the results section.

Table 2. Final cluster centers (K-means analysis)

Variables in the model	***Q1.1.*** Casual gamers	***Q1.2.*** Online players	***Q1.3.*** Individual players	***Q1.4.*** Intensive players
Overall frequency of video game play	-0,58	0,28	0,46	0,86
Frequency of 1 player games	-1,07	-0,59	0,69	0,91
Face-to-face multiplayer frequency	-0,62	0,00	-0,37	1,01
Online multiplayer frequency (acquaintances and/or friends)	-0,86	0,37	-0,49	1,02
Online multiplayer frequency (unknown)	-0,92	0,53	-0,46	0,92
Sample base: they play video games (N=1045)	25,3% (N=264)	23,1% (N=241)	26,3% (N=275)	25,4% (N=265)

Data: standard scores for variables in each cluster / Source: Own elaboration.

Secondly, a principal components factor analysis *(FA)* was performed on 22 variables on the degree of agreement (on a scale of 0 to 10) with different statements about the video game sector and personal gaming experience. A 5-component solution was chosen (Total variance = 56.9%; Determinant = 0.01; KMO = 0.880; Barlett significant at 95.5%) and a Varimax orthogonal rotation was performed. The composition of the components is described below, while their full scores can be found in the Appendix (Table 6):

- *FA.1.* Community and entertainment (19.5% variance): high scores on variables that show identification with video games and a relevant role they play in personal identity (feeling of being part of a community, 0.762; considering games the main source of entertainment, 0.761; using them to meet friends, 0.720; feeling of rejection for being *a gamer,* 0.672; feeling of spending too much time playing, 0.595; considering video games more entertaining and interactive than other forms of leisure, 0.586; being influenced by the opinion of content creators, 0.516).

- *FA.2.* Negative effects (13.2% of variance): high scores for variables that emphasize the negative aspects of video games, such as the promotion of violence (0.825), addiction (0.821), isolation (0.783), the transmission of consumerist and ideological messages (0.592) and the link between video games and childhood (0.477).

- *FA.3.* Educational and practical use (8.9% variance): high scores for variables that highlight the usefulness of video games for developing personal and professional skills (0.702), their use in classrooms (0.399) and for disconnecting (0.553), as well as a critical view of loot boxes and micropayments (0.522).

- *FA.4.* Personal exposure and harassment (8.6% variance): high scores for the propensity to hide identity while playing (0.715), receiving inappropriate comments and insults (0.632) and the feeling of frustration, anxiety and anger while playing (0.546).

ÿ *FA.5.* Sexism (7.1% variance): high scores for the consideration that video games have sexist content (0.615) and are designed for boys to a greater extent than for girls (0.661).

Finally, a multivariate analysis of variance (MANOVA) was performed, taking as dependent variables the 5 factors arising from the analysis of perceptions and gaming experiences *(FA)* and, as independent variables, sex, age in five-year groups and the four groups of gaming habits arising from the cluster analysis (Q). The objective is to investigate the main effects of the independent variables and the combined effects, which will allow us to respond to hypotheses *H2, H3* and *H4.*
The inclusion of age groups and the cluster of video-playing habits as control variables will allow us to further refine and examine the differences detected between men and women, checking whether these are generalised differences or whether they are linked to specific age groups or habits. In those cases where significant associations have been detected (Table 3), the marginal means have been analysed and a Tukey-b post hoc analysis has been carried out (differences between categories of the variable).

Table 3. Multivariate analysis of variance (MANOVA). Significance of intersubject effects

Variables	*FA.1*	*FA.2*	*FA.3*	*FA.4*	*FA.5*
Model	0,000*	0,000*	0,000*	0,009*	0,000*
Intersection	0,631	0,983	0,871	0,467	0,744
Sex	0,000*	0,000*	0,948	0,376	0,000*
Age	0,307	0,000*	0,477	0,356	0,331
Gaming habits	0,000*	0,000*	0,000*	0,260	0,065
Sex*Age	0,924	0,342	0,476	0,091	0,224
Sex*Gaming habits	0,055	0,392	0,492	0,040*	0,948
Age*Playing habits	0,246	0,073	0,069	0,462	0,022*
Sex*Age*Gaming habits	0,541	0,395	0,269	0,194	0,898

Data: significance (F test) / *Significant difference at 95.5% / Source: Own elaboration.

The appendix (Table 7) includes all marginal means of the independent variables, their interactions and post hoc models . To summarize the data presented, only those interactive and *post hoc* models that show significant relationships with the dependent variables are included .

3. Results

The presentation of the results is divided into two parts. In the first, we construct a typology of player profiles according to their game modes. In the second, we carry out a multivariate statistical analysis of the young people's gaming experience.

3.1. Typology of videogame profiles according to game mode

We begin by presenting the composition of the player profiles extracted from the cluster analysis of their playing frequencies in different game modalities (Annex, Table 5).

Q1.1. Occasional gamers (25.3% of the sample): They are characterized by a significantly lower frequency of play than the average of video gamers, both in general and in all the modalities considered (1 player, face-to-face multiplayer, online with acquaintances, online with strangers). Only 2 out of 10 play video games every week, the most common type of games being single-player games (16.9% play every week), followed by face-to-face multiplayer games (12.5% play every week) and online multiplayer games with acquaintances (9.6% play every week), while the frequency of online play with strangers is significantly low (only 4.2% play weekly). Regarding their sociodemographic composition, in this group we find a higher frequency of play than in other groups.

comparative presence of women (68.4% compared to the sample of 45.7% of female players) and of young people between 15 and 19 years old, although the differences by age are much less significant.

Q1.2. Online gamers (23.1% of the sample): They are characterised by a high frequency of online multiplayer gaming, both with acquaintances and strangers, while they play single-player video games to a lesser extent. As for face-to-face gaming with acquaintances, they are average, and as for their general frequency of gaming, they are above average, but slightly behind intensive gamers *(Q1.4)* and solo gamers *(Q1.3).* Thus, 46.5% of online gamers play every week and 35.4% every day, with the most common daily gaming frequencies being those aimed at the online environment, either with strangers (36.6%) or acquaintances (31.5%). From a sociodemographic point of view, this is a very slightly masculinized group (56.2% men and 43.8% women), despite the fact that online gaming is common among both sexes, and by age we find a young group with respect to the total number of players, with the presence of young people between 25 and 29 years old being especially reduced.

Q1.3. Single players (26.3% of the sample): They are characterized by playing single-player video games more frequently, while scoring below the average for multiplayer game modes. As for the general frequency of play, they are situated between intensive gamers *(Q1.4)* and online gamers *(Q1.2),* with 46.7% playing every day and 43.2% playing weekly.
By game type, 64.4% of these players play single-player games daily, while in the case of multiplayer games less than 1 in 10 plays daily. In terms of sociodemographic composition, this is a group very similar in terms of gender to the average player (55% men and 45% women) but in terms of age we find a clearly older profile, with players between 25 and 29 years old standing out (43.9% compared to the average of 37%).

Q1.4. Intensive gamers (25.4% of the sample): They play more frequently than all other groups, both in general and in the four game modes considered (single player, face-to-face multiplayer, online with acquaintances, online with strangers). Thus, 84.3% play every day, especially single-player games (84.5%) and online multiplayer games, both with acquaintances (73.2%) and with strangers (73.4%), while just over half (53.8%) play daily with other people in person. In terms of demographic composition, this is a highly masculinised group (74.8% men and 25.2% women) but which, in terms of age, shows a distribution very similar to the average of young gamers, with no five-year group standing out significantly.

3.2. Comparative analysis of the gaming experience

Below we present the comparative analysis of the different factors that bring together perceptions and gaming experiences according to sex, age and video game profile. To do so, we first studied the differences observed in the factor scores of each component for each of the comparison variables (Table 4) and then delved deeper into the interactive effects based on the results of the multivariate analysis of variance (MANOVA), whose tables are available in the Appendix (Table 7).

Starting with gender differences, we found significant differences, according to the MANOVA analysis, in factors *FA.1* (community and entertainment), *FA.2* (negative effects) and *FA.5* (sexism), while in factors *FA.3* (training and practical use) and *FA.4* (personal exposure and harassment) the

The scores of men and women are very similar. Regarding *FA.1,* in the case of men
We found a greater connection between video games and the experience of community and the fun they provide, in relation to other forms of leisure, while in the case of women this eminently positive perception of video games is less present. In the case of *FA.2* and *FA.5* the relationship is reversed and it is women who show higher factor scores: among female gamers we find a much more common mention of the negative effects of video games (promotion of violence, addiction, isolation, consumerism, etc.) and, above all, of the sexist content present within the games. Regarding the connection of games with practical life and training *(FA.3)* as well as with the experiences of personal exposure and harassment received *(FA.4),* there are no significant differences between men and women.

Table 4. Factor analysis *(FA).* Factor scores according to analysis variables

Variables		*FA.1*	*FA.2*	*FA.3*	*FA.4*	*FA.5*
Sex	Women	-0,30	0,21	-0,03	-0,05	0,17
	Men	0,25	-0,18	0,03	0,04	-0,14
Age	15 to 19 years old	-0,01	-0,11	-0,07	-0,08	-0,08
	20 to 24 years	-0,04	-0,08	-0,03	0,04	0,04
	25 to 29 years	0,04	0,16	0,08	0,03	0,03
Q1. Video game profiles	Casual gamers	-0,53	0,15	-0,22	-0,05	0,20
	Online players	0,25	0,16	-0,11	0,11	-0,03
	Individual players	-0,16	-0,10	0,23	-0,06	-0,04
	Intensive players	0,47	-0,19	0,09	0,01	-0,13

Data: factor scores / Source: Own elaboration.

Regarding age, the differences between five-year groups among young people are not as clear as those found by sex, with only those appearing in *FA.2* (negative effects) being significant. Thus, in general terms, the perception of the negative effects of games (violence, addiction, isolation, consumerism, etc.) is greater among young people aged 25 to 29, compared to the 15 to 19 and 20 to 24 age groups, who generally have a more positive opinion of video games.

Finally, with regard to the study of videogame profiles, we found significant differences in factors *FA.1, FA.2* and *FA.3,* but not in *FA.4* and *FA.5.* Regarding *FA.1,* the feeling of community and fun provided by videogames is greater among intensive gamers and online gamers, among whom the social nature of the games is more frequently highlighted. In the case of individual gamers, we found a score slightly below the average (-0.16), since in this case the entertainment is highlighted but not the social and community dimension of the game, while in the case of occasional gamers, less connected to videogames in general, we found a score much lower than the average in this factor (-0.53). In the case of negative effects (FA.2), they are more frequently pointed out by occasional gamers but also by online gamers, while the view is more positive among individual and intensive gamers. These scores are influenced by the gender dimension, as the most masculine profile (intensive gamers) is the one that is least aware of the negative effects. Finally, with respect to *FA.3,* the educational and practical connection with video games is closely associated with individual gamers (0.23) and, to a lesser extent, with intensive gamers (0.09), while it is lower among casual and online gamers.

In addition to these bivariate differences, the post hoc analysis of the MANOVA model (Appendix, Table 7) developed has allowed us to highlight statistically significant interactive effects between sex and
videogame profile (for factor *FA.4)* and between age and videogame profile (for factor *FA.5).* Regarding *FA.4,* it is interesting how, in the case of men, the experiences of personal exposure and harassment

received are more common among online gamers (0.221) and casual gamers (0.086), while in the case of women these experiences appear very distinctly among intensive gamers (0.170), but not in the rest of the profiles. This distinction is relevant, as it points to the fact that, in the case of women, receiving insults, harassment and vulnerability to online exposure is closely linked to profiles that show a higher frequency of gaming (intensive gamers).

Finally, regarding *FA.5,* the perception of sexism in video games is closely linked to casual gamers aged 20 to 29, but not to casual gamers aged 15 to 19. Among the youngest, the perception of sexist content is slightly higher among online gamers than among the rest of the profiles.

4. Discussion and conclusions

In this article we have developed a multivariate statistical model to investigate the videogame practices and experiences of youth from the perspective of gender inequalities. To do so, we have connected the gaming practices of men and women with their attitudes towards videogames and their lived experiences, among which we find situations of identity concealment, harassment and intimidation, but also an enormous centrality of videogames in the daily life of youth and their consolidation as one of their main forms of entertainment. Firstly, the typology of videogame profiles constructed shows a greater presence of women among occasional gamers (68.4%), while men stand out among intensive gamers (3 out of 4 are men). Furthermore, in relative terms we can point out that single-player games stand out among women and older age groups.

These results follow the general line of the existing literature on the subject, which highlights very similar percentages of play between men and women, a much higher frequency of play among men (Afonso Noda and Aguilera Ávila, 2021; Iglesias Caride *et al.,* 2022) and a preference of women towards single-player games (Afonso Noda and Aguilera Ávila, 2021; Tsai, 2017).

Secondly, based on the factor analysis, we found an association between experiences of violence and hiding one's online identity, in line with other research (Paaßen *et al.,* 2017; Tang *et al.,* 2020; Vermeulen *et al.,* 2017). However, while the propensity to hide one's identity is higher among women (47% versus 39% of men), harassment situations are mentioned more frequently by men (47% versus 31% of women). The analysis of variance allows us to demonstrate how this association between personal exposure and harassment with sex is mediated by the game mode, which acts as an intervening variable. Thus, we found a significant association between the video game profile and sex, such that harassment and stalking situations particularly affect women who play video games more frequently (intensive gamers), while among men they particularly affect the profiles of online gamers and occasional gamers. Some research (Lopez-Fernandez *et al.,* 2019; Vermeulen *et al.,* 2017) indicates that women's preference for single-player games could be related precisely to this association between frequency of online gaming and harassment, so that the video game ecosystem is presented as hostile territory for women.

In fact, the literature on video game identities and culture (Kuss *et al.,* 2022; Paaßen *et al.,* 2017; Shaw, 2012) shows the difficulties that girls experience in identifying themselves as *gamers.*
due to the exclusionary and masculinized construction of this category, which excludes occasional or casual players . On the one hand, among men it is more common for video games to be their main source of leisure and they play more frequently. Women also play regularly, but they have a greater diversity of forms of entertainment. On the other hand, the

Men's identification with video games is also greater, there is a greater sense of belonging to a community and a more positive assessment of them. It is interesting how, among men, the profiles of online and intensive gamers are those that value video games more positively, when paradoxically they are the groups that receive the most harassment while playing. In the case of women, on the contrary, the assessment is much more negative, highlighting to a greater extent situations such as the promotion of violence, addiction or isolation that video games can generate. These results are in line with previous evidence (Lopez-Fernandez *et al.,* 2019), which highlights the more critical nature of women, who are also much more aware of the sexism and machismo present in video games.

video games. This critical nature (Mccullough *et al.,* 2020) may have a protective effect on women's own video game experience, especially when they play games with sexist content or a stereotypical representation of women.

As main conclusions, the diversification of videogame practices among young people, confirmed by descriptive studies carried out in recent years (Gómez-Gonzalvo *et al.,* 2020; Iglesias Caride *et al.,* 2022; Lopez-Fernandez *et al.,* 2019; Oceja and Fernández, 2020), is materialized in our research from the presentation of four game profiles (occasional, individual, online and intensive players) in which important sociodemographic differences are reflected. Thus, although men have a higher frequency of play in all modalities, among women and young people

In relative terms, among those over 25 years of age, single-player video games stand out, while among those under 25 years of age, online gaming modalities stand out. This leads us to partially accept H1 , which predicted a higher frequency of play and a greater presence of single-player games among women. Regarding gaming experiences, we find a worrying normalisation of hate and violence in online multiplayer video games that affects both men and women, which leads us to reject H2 , which predicted a higher prevalence of these situations among women. This does not happen among all female gamers, but harassment and intimidation especially affect those who play more frequently (intensive female gamers). These types of practices are explained by a masculinised *gamer* culture and a greater presence of video games in the identity-forming processes of men (greater importance of games in their leisure time, greater sense of community), which leads us to accept H3 . As other authors have pointed out (Kuss *et al.,* 2022; Paaßen *et al.,* 2017; Shaw, 2012; Vermeulen *et al.,* 2017), online video game culture is largely hostile to women, which could influence, along with other factors, girls' greater preference for single-player games, in which these types of situations do not occur, and their greater propensity to hide their identity in online games. Women are also more critical than men regarding video games, highlighting aspects such as the sexism present in the titles, their addictive potential, isolation and the promotion of violence, which leads us to accept H4 .

Finally, this study suffers from certain limitations that should be addressed through future lines of research. Firstly, the questionnaire did not include specific questions about sexual harassment, so the dimensioning of this type of situation is pending for future studies, as it is a worrying reality that has been confirmed in other research (Burnay *et al.,* 2019; Tang *et al.,* 2020). Secondly, further investigation, in the Spanish context and among youth, into the concept of *gamer culture and identities is still pending.* This is a work that has been carried out from a qualitative perspective (Muriel, 2018), but it would be interesting to dimension the generalization of certain stereotypes about what constitutes being an "authentic *gamer"* and its exclusionary nature for female gamers. Furthermore, a qualitative, biographical study is still pending, which will deepen the understanding of the female gamers' own experience, their frameworks of meaning, experiences and dispositions, and the way in which they embody the processes and situations of inequality and violence described in this article. In this way, it would be possible to understand the effects that online experiences of hate and violence have on their daily offline lives.

References

Afonso Noda, S., and Aguilera Ávila, L. (2021). Inequalities in the world of video games from the perspective of male and female players. *Feminist Research,* 12(2), 677-689. https://doi.org/10.5209/infe.60947

Aghazadeh, S. A., Burns, A., Chu, J., Feigenblatt, H., Laribee, E., Maynard, L., Meyers, A. L. M., O'Brien, J. L., y Rufus, L. (2018). GamerGate: A Case Study in Online Harassment. En J. Golbeck (Ed.), *Online Harassment. Human–Computer Interaction Series* (pp. 179-207). Springer, Cham. https://doi.org/10.1007/978-3-319-78583-7_8

Arroyo Menéndez, M., & Finkel, L. (2019). Internet surveys and new sampling procedures. *Overview Social, 30,* 41–53. https://eprints.ucm.es/id/eprint/58785/

Spanish Video Game Association. (2021). *The video game industry in Spain in 2021. 2021 Yearbook.* https://bit.ly/3FaajvR

Brusint, P. (2020). Invisible suffocation: avatars of masculinity in game mechanics. In A. Flores Ledesma and P. Velasco Padial (Eds.), *Ideological Games: Video games and ideology* (pp. 115-153). Héroes de Papel Editions.

Burnay, J., Bushman, B. J., y Larøi, F. (2019). Effects of sexualized video games on online sexual harassment. *Aggressive Behavior,* 45(2), 214-223. https://doi.org/10.1002/ab.21811

Calderón Gómez, D. and Gómez Miguel, A. (2022). *Consume, create, play. Overview of digital leisure among youth.* Queen Sofia Center for Adolescence and Youth. FAD Youth Foundation. https://doi.org/10.5281/zenodo.6338126

Campo Pereira, I. (2022). Video games and differential gender socialization: preferences and practice. *International Multidisciplinary Journal CREA,* 2, 61-72. https://doi.org/10.35869/ijmc.v2i1.3895

Chen, K. H., Oliffe, J. L., y Kelly, M. T. (2018). Internet Gaming Disorder: An Emergent Health Issue for Men. *American Journal of Men's Health,* 12(4), 1151-1159. https://doi.org/10.1177/1557988318766950

by Matías Batalla, D., and Quartucci, CM (2022). *Gaming, eSports and Streaming from a gender perspective.* https://bit.ly/42bN4eX

DEV. (2022). *#GameDevEs: X-ray of Spanish video game development professionals.* DEV, Spanish Association of Video Game and Entertainment Software Production and Development Companies. https://dev.org.es/es/gamedeves

Ferguson, C. J., y Glasgow, B. (2021). Who are GamerGate? A descriptive study of individuals involved in the GamerGate controversy. *Psychology of Popular Media,* 10(2), 243–247. https://doi.org/10.1037/PPM0000280

Flores Ledesma, A. (2020). Introduction. In A. Flores Ledesma and P. Velasco Padial (Eds.), *Ideological Games: Video games and ideology* (pp. 15–20). Héroes de Papel Editions.

Gestos, M., Smith-Merry, J., y Campbell, A. (2018). Representation of Women in Video Games: A Systematic Review of Literature in Consideration of Adult Female Wellbeing. In *Cyberpsychology, Behavior, and Social Networking* (Vol. 21, Issue 9, pp. 535-541). Mary Ann Liebert Inc. https://doi.org/10.1089/cyber.2017.0376

Gómez-Gonzalvo, F., Molina, P., y Devís-Devís, J. (2020). Which are the patterns of video game use in Spanish school adolescents? Gender as a key factor. *Entertainment Computing, 34.* https://doi.org/10.1016/j.entcom.2020.100366

Gonzalez-Cabrera, J., Basterra-Gonzalez, A., Montiel, I., Calvete, E., Pontes, H. M., and Machimbarrena, J. M. (2022). Loot boxes in Spanish adolescents and young adults: Relationship with internet gaming disorder and online gambling disorder. *Computers in Human Behavior, 126,* 107012. https://doi.org/10.1016/j.chb.2021.107012

Herz, J. C. (1997). *Joystick Nation: How Videogames Ate Our Quarters, Won Our Hearts, and Rewired Our Minds.* Little Brown and Company.

Iglesias Caride, G., Domínguez Alonso, J., & González Rodríguez, R. (2022). Influence of gender and age on the use of video games in the adolescent population. *Psychology, Society & Education,* 14(2), 11-19. https://doi.org/10.21071/psye.v14i2.14267

Isaaman, M.-C., & Tolaine-Sage, S. (2022). *Building an equal gaming sector.* Women in Games / Spanish Video Game Association. https://bit.ly/3ZzOX30

Kuss, D. J., y Griffiths, M. D. (2012). Online gaming addiction in children and adolescents: A review of empirical research. *Journal of Behavioral Addictions,* 1(1), 3-22. https://doi.org/10.1556/JBA.1.2012.1.1

Kuss, D. J., Kristensen, A. M., Williams, A. J., y Lopez-Fernandez, O. (2022). To Be or Not to Be a Female Gamer: A Qualitative Exploration of Female Gamer Identity. *International Journal of Environmental Research and Public Health,* 19(3), 1169. https://doi.org/10.3390/ijerph19031169

Lopez-Fernandez, O., Jess Williams, A., y Kuss, D. J. (2019). Measuring female gaming: Gamer profile, predictors, prevalence, and characteristics from psychological and gender perspectives. *Frontiers in Psychology, 10,* 898. https://doi.org/10.3389/fpsyg.2019.00898

Mccullough, K. M., Wong, Y. J., y Stevenson, N. J. (2020). Female Video Game Players and the Protective Effect of Feminist Identity Against Internalized Misogyny. *Sex Roles, 82,* 266-276. https://doi.org/10.1007/s11199-019-01055-7

Méndez Martínez, A. (2017). Women and creation in the video game industry in Spain: opportunities and difficulties in masculinized spaces. *Feminist Research,* 8(2), 545-560. https://doi.org/10.5209/infe.54976

Muriel, D. (2018). *Gamer identity. Video games and the construction of meaning in contemporary society.* AnaitGames.

Oceja, J., & Fernández, NG (2020). University students and video games: Perceived media culture, use and preferences based on gender. *Analytical Archives of Educational Policies,* 28(66), 1-19. https://doi.org/10.14507/EPAA.28.4181

Paaßen, B., Morgenroth, T., y Stratemeyer, M. (2017). What is a True Gamer? The Male Gamer Stereotype and the Marginalization of Women in Video Game Culture. *Sex Roles,* 76(7-8), 421-435. https://doi.org/10.1007/S11199-016-0678-Y

Paredes Otero, G. (2022). Empowerment in the representation of female video game characters. *Digital Work, 22,* 81–96. https://doi.org/10.25029/od.2022.330.22

Shaw, A. (2012). Do you identify as a gamer? Gender, race, sexuality, and gamer identity. *New Media and Society,* 14(1), 28-44. https://doi.org/10.1177/1461444811410394

Tang, W. Y., Reer, F., y Quandt, T. (2020). Investigating sexual harassment in online video games: How personality and context factors are related to toxic sexual behaviors against fellow players. *Aggressive Behavior,* 46(1), 127-135. https://doi.org/10.1002/ab.21873

Tsai, F. H. (2017). An Investigation of Gender Differences in a Game-based Learning Environment with Different Game Modes. *Eurasia Journal of Mathematics, Science and Technology Education,* 13(7), 3209-3226. https://doi.org/10.12973/EURASIA.2017.00713A

Vermeulen, L., van Bauwel, S., y van Looy, J. (2017). Tracing female gamer identity. An empirical study into gender and stereotype threat perceptions. *Computers in Human Behavior, 71,* 90-98. https://doi.org/10.1016/j.chb.2017.01.054

Brief CV of the authors

Daniel Calderón Gómez holds a PhD in Sociology and Anthropology (2019) from the Complutense University of Madrid. He is an Assistant Professor in the Department of Sociology: Methodology and Theory at the UCM (2021-present). His main lines of research cover the sociology of youth, digital inequality, studies on digital leisure and social stratification.

Alejandro Gómez Miguel holds a Master's Degree in Research Methodology in Social Sciences (2012) from the Complutense University of Madrid (UCM) and a degree in Sociology (2011, UCM). He is a social researcher at the Reina Sofía Center on Adolescence and Youth of the FAD Juventud Foundation (2022-present).
His main lines of research include analysis, criticism and reflection on video games, youth studies, cultural expression and mass society.

CRediT Authorship Statement

Conceptualization: DCG; Methodology: DCG and AGM; Software: DCG and AGM; Validation: DCG and AGM; Formal analysis: DCG and AGM; Investigation: DCG and AGM; Resources: DCG and AGM; Data curation: DCG and AGM; Writing (original draft): DCG; Writing (review and editing): AGM; Visualization: DCG and AGM; Supervision: DCG; Project administration: DCG; Funding acquisition: DCG; AGM

Acknowledgements and funding

This article has been prepared based on the project *Consume, create, play. Overview of digital leisure among youth,* developed by the Reina Sofía Center for Adolescence and Youth of the Fad Juventud Foundation and funded by Telefónica.

Conflict of interest

The authors declare that there is no conflict of interest.

Annex

Table 5. Cluster analysis (Q). Cluster characteristics

Variables		**Total /** they play video games	***Q1.1.*** Casual gamers	***Q1.2.*** Online players	***Q1.3.*** Individual players	***Q1.4.*** Intensive players
Sex	Women	45,7	68,4	43,8	45,0	25,2
	Men	54,3	31,6	56,2	55,0	74,8
Age	15 to 19 years old	30,9	35,6	35,3	24,9	28,5
	20 to 24 years	32,1	29,9	33,7	31,2	33,8
	25 to 29 years	37,0	34,5	31,0	43,9	37,7
Overall frequency of video game play	Never	0,0	0,0	0,0	0,0	0,0
	Less frequently	28,3	78,1	18,1	10,1	5,8
	Every week	28,6	16,7	46,5	43,2	9,9
	Every day	43,1	5,2	35,4	46,7	84,3
Frequency of single player games	Never	3,3	9,9	3,3	0,0	0,0
	Less frequently	28,9	73,2	43,9	0,0	0,5
	Every week	29,4	16,9	52,8	35,6	15,0
	Every day	38,4	0,0	0,0	64,4	84,5
Face-to-face multiplayer frequency	Never	9,6	21,6	4,5	11,6	0,0
	Less frequently	49,1	65,9	51,8	63,5	15,3
	Every week	23,9	9,9	33,8	22,2	30,9
	Every day	17,4	2,6	9,9	2,6	53,8
Online multiplayer frequency (acquaintances and friends)	Never	9,1	21,2	1,3	12,6	0,2
	Less frequently	37,6	69,2	22,0	54,4	3,0
	Every week	26,3	9,4	45,2	29,2	23,6
	Every day	27,0	0,2	31,5	3,9	73,2
Online multiplayer frequency (unknown)	Never	9,9	24,5	0,5	13,1	0,3
	Less frequently	38,2	71,3	11,2	57,2	9,8
	Every week	22,6	4,2	51,7	21,4	16,4
	Every day	29,3	0,0	36,6	8,4	73,4

Data: column percentages / Source: Own elaboration.

Table 6. Factor analysis *(FA).* Rotated component matrix

Variables	*FA.1*	*FA.2*	*FA.3*	*FA.4*	*FA.5*
I like online video games because I feel part of a community.	0,762	0,051	0,063	0,139	-0,041
Video games are my main source of entertainment.	0,761	-0,057	0,125	0,099	0,016
Video games have been a channel to meet people and make friends.	0,720	0,039	0,117	0,102	-0,127
I have felt rejected for being a gamer.	0,672	0,203	-0,218	0,198	0,181
At some point I've come to think that I spend too much time playing video games.	0,595	0,243	0,179	0,270	-0,161
Playing video games is more interactive and fun than other forms of entertainment.	0,586	-0,070	0,384	-0,124	0,234
The opinions of content creators and reviewers influence me when choosing which games to play.	0,516	0,070	0,091	0,378	0,123
I usually choose characters of a different sex or gender than mine.	0,468	0,031	-0,179	0,422	0,305
Playing video games can promote violence and other negative values.	0,076	0,825	-0,088	0,030	0,173
Video games are dangerous because they can be addictive.	-0,036	0,821	0,092	0,085	0,043
Playing video games harms your social life and encourages isolation.	0,113	0,783	-0,151	0,066	0,188
Video games can convey consumerist, political and ideological messages.	0,068	0,592	0,380	0,166	0,036
Video games are for children and teenagers.	0,402	0,477	-0,335	0,010	0,406
Playing video games helps develop personal and professional skills and learn things	0,193	-0,103	0,702	0,012	0,207
Playing video games helps me disconnect or relax.	0,484	-0,113	0,553	0,136	-0,148
A paid game should not have loot boxes, paid DLCs, or other micropayments.	-0,077	0,250	0,552	0,241	0,201
Video games should be used in classrooms as a learning tool.	0,386	0,038	0,399	-0,126	0,388
I usually hide my identity (name, voice, gender, etc.) when playing online video games.	0,023	0,142	0,039	0,715	0,079
I have received inappropriate comments or insults while playing online video games.	0,319	-0,020	0,184	0,632	0,050
Sometimes playing makes me frustrated, anxious or angry.	0,394	0,142	0,017	0,546	0,103
Most video games are more geared towards boys' tastes than girls'.	-0,034	0,160	0,221	0,135	0,661
Video games have a lot of sexist content.	-0,079	0,314	0,128	0,201	0,615

Data: factor scores / Source: Own elaboration.

Table 7. Multivariate analysis of variance (MANOVA). Marginal means

Variables	***FA.1***	***FA.2***	***FA.3***	***FA.4***	***FA.5***
Global averages	0,014	0,001	-0,005	0,023	0,010
Women	-0,155	0,172			0,142
Men	0,183	-0,171			-0,122
15-19 years		-0,126			
20-24 years		-0,054			
25-29 years		0,182			
Casual gamers	-0,451	0,077	-0,226		
Online players	0,223	0,203	-0,120		
Individual players	-0,177	-0,124	0,226		
Intensive players	0,460	-0,154	0,100		
Women*Casual gamers				-0,123	
Women*Online Gamers				-0,024	
Women*Individual players				-0,044	
Women*Intensive players				0,170	
Men*Casual gamers				0,086	
Men*Online gamers				0,221	
Men*Individual players				-0,063	
Men*Intensive players				-0,042	
15-19 years old*Casual gamers					-0,139
15-19 years old*Online players					0,027
15-19 years old*Individual players					-0,087
15-19 years old*Intensive players					-0,021
20-24 years old*Casual gamers					0,225
20-24 years old*Online gamers					-0,002
20-24 years old*Individual players					-0,002
20-24 years old*Intensive players					-0,006
25-29 years old*Casual gamers					0,371
25-29 years old*Online gamers					-0,039
25-29 years old*Single players					-0,011
25-29 years old*Intensive players					-0,195

Data: marginal means (only those showing significant differences are included) / Source: Own elaboration.