

Article

Moving towards the End of Gender Differences in the Habits of Use and Consumption of Mobile Video Games

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Abstract: The world of video games has become one of the most important entertainment niches for society. In the last decade it has surpassed in turnover audio-visual markets such as cinema and music, driving the development of a new form of communication. The increase in the number of female gamers has highlighted the need to discover differences and similarities between players, both in habits and motivations. We present a study based on a survey procedure for the completion of a questionnaire that aimed to cover the age range of 18 to 30 years of Spanish youngsters and that reached a total of 711 valid responses. The results showed that there were no significant differences in terms of hours spent playing video games between the two genders, although there were motivational differences in the reasons for playing, specifically in terms of competition and challenge. The discussion of the results was carried out by means of a comparative statistical analysis of means to confirm the hypotheses and meet the objectives. Despite the existence of significant differences between genders, these were not as notable as might be expected. When it comes to gaming, as we have detected in our study, there were some consumption habits with differentiated gender patterns; however, in relevant indicators such as hours of consumption, increase in lockdown consumption, and spending, there were no significant differences. The gender gap that existed a few years ago between video gamers is becoming progressively narrower.

Keywords: video games; gender; motivations; consumption; mobile; habits; differences



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1. Introduction

Video games comprise one of the most important markets today. When we talk about the entertainment industry, music or cinema are the main ideas that come to mind; however, the video game industry has taken the lead in this field.

In Spain, the number of video game users continues to grow; while in 2017 we had 15.9 million players [1], in 2021 we have reached 19.9 million, representing an increase of four million. In addition, in terms of mobile players, we have had an increase of two million, from 8.9 million to 11 million. When we look at the statistics in terms of age, we see that almost 42% of the total users are aged from 18 to 34 years.

With the data in hand, it would be turning our backs on reality not to focus on the increase in female gamers over the last few years. The reality is that, since the beginning of the video game world, it is the male gender that has been the object of attraction for the industry's marketing and advertising [2]. This meant that the majority of the public interested in video games [3] was male. If we look at the figures in the latest report (2019) of the Spanish Association of Video Games, almost 42% of gamers are women. Going deeper, we find that on mobile devices, 49% of gamers are women, with more than five hours a week of gaming. An analysis and study of usage and consumption habits, as well as the motivations of female gamers and the existing differences between genders, seems necessary for such a dynamic and expanding sector.

The aim of our research was to evaluate the use and consumption habits of young people, as well as the motivations of video gamers between 18 and 30 years old, in Spain.

We also sought to detect the differences and correlations that may exist between research variables. In addition, we sought to identify whether there are gender differences between men and women in the way they consume video games, and as well as whether or not there are different motivations between men and women when it comes to playing.

1.1. Theoretical Framework and State of Art

Over the last few years, the study of video games has grown steadily, as has society's interest in them. The study of video games has several aspects, including the pure technological development which they have undergone, from pixels a few years ago to the current virtual reality. However, what is really interesting is their growth as an object of study in the social sciences.

It is important to note studies that can be considered as the basis for the formation of the field of video games. During the early years, researchers were clearly concerned about the addiction of young people to video games [4].

However, during the last few years, the vision of video games has broadened and extended to different perspectives, among which education has become a central theme for research [5–7]. In that sense, their more practical application in the school world has provided a very rich source of literature during the last five years. To those benefits already mentioned, we can add [8] the benefits of video games in education [4], their neuropsychiatric applications [9] or the development of thinking skills [10], as well as a literature review on the subject that was carried out in 2005 [11].

This study, which focuses on consumption habits and motivations, is based on previous studies that have already gone deeper into this field. With regard to consumption habits, research has been carried out by the authors of [6,12,13] focusing on adolescents, although it is also worth mentioning the study [14] by Maya et al., which focused on online multiplayer video games. Within the study of habits, we can find studies focusing on different populations [15,16], including the incidence on the self-concept of university students and primary school children [17,18]; e-sports events attendees [19]; and how the prolonged use of video games affects the perception of violence [20] and gender differences about it.

In terms of studies on motivations in video games, interesting research has also been carried out. Fox et al. and Biolcati et al. focused on the motivations of massively multiplayer games [21,22], and there have also been studies investigating motivations for certain video games [23–25] and in university students [26].

One of the fundamental points is the media through which people play video games. Different results are obtained if we try to investigate video games on computers or consoles compared to trying to find out motivations or consumption habits on mobile devices. Mobile video games have the characteristic of being playable anywhere and in any way, hence the interest in focusing the study on this type of video game. They can be played at home, on the way to work or school, or in the street. There is notable research on adolescents in the face of new technologies [27,28], on consumption habits [29–31], and on gender differences [32–38].

Although we have seen many aspects of video game research within the academic world, one of the strongest currents for decades has been the application of video games to the world of education. From evaluating the consequences that video games can have on academic performance to their possible use as a vehicular tool that promotes learning in both children and adolescents, the number of research studies on consumption habits and motivations in video games, both for specific titles and in broader genres, is by no means negligible.

We can understand this study area as consisting of two interconnected sections. On the one hand, we have a part that focuses on the consumption habits and uses of video games. There are many studies of consumption habits in fields of research such as the Internet, social networks [23], and television [39] that allow us to understand the importance of what

is consumed and how it is consumed in the different new media that have emerged over the years.

With respect to the motivational scales in video games, one of the most important sources of information for this study was the article by González-Vázquez and Igartua [40] on a proposed scale of motives for playing video games, on which the scale of motives of the present study is based on an analysis of the young people surveyed, although it is also worth highlighting works such as that of Przybylski and Rigby [41] and King [42].

The state of the art in the field of video games has developed profoundly, as we have indicated above, in recent years. If we look back two years, there are several fronts that have been opened in this market.

On the one hand, COVID has undoubtedly been one of the most extensive fronts of study within the field of video games. Research has been carried out on the role of video games in the pandemic [43], anxiety and the effects of video games on children during this period [44–46], as well as studies on self-determination during the pandemic and the positive effects of technology during the pandemic [47].

Outside of COVID, in the last two years, research in this field has continued to develop, among which we highlight the psychological part [48–50], as well as the benefits to the elderly [51] and children [52] and the effect on physical health [53,54].

1.2. Objectives

In order to test the hypotheses presented in this paper, we studied the variables that influence the use of mobile phones and tablets to play video games.

One of the main objectives of our research was to detect the influence of gaming hours on the consumption habits of respondents. We aimed to find out whether there are gender differences in the number of hours consumed and how these may vary between different categories such as weekday or weekend consumption, or during the 2020 lockdown, the latter being a secondary objective of the research.

The second main objective was to discover the motivational differences between genders. The development of this objective was framed within the importance of not only knowing how, when, and how much respondents play, but also what drives them to play, thus understanding in a much more complete way the context of gaming on mobile devices.

2. Materials and Methods

The research work was carried out by means of a survey procedure. We worked with the Qualtrics platform to carry out a questionnaire that aimed to cover the age range between 18 and 30 years old. We considered this age group to be the most interesting for this research due to the characteristics of the generations included in it. This range included young people who either grew up alongside the development of this technology up to the current mobile games, or young people for whom the technology already existed. For the sample selection, a non-probabilistic snowball sampling method was used, with the collaboration of 65 trained university surveyors belonging to the Degree in Communication and Audiovisual Creation program at the University of Salamanca, who distributed the survey among their peers through their social networks in this age group. A total of 755 responses were obtained. After filtering for internal consistency and response time, this resulted in 711 valid responses. The data collection was carried out between November 2021 and January 2022. The survey had 32 items and can be consulted in Appendix A, as well as the raw data matrix and the analyses and contrasts carried out at the end of the article.

The questionnaire can be divided into two parts: on the one hand, consumer habits, and on the other, motivations. For the first, we used other studies that have aimed to construct and validate this type of questionnaire as a starting point [54] and for the second, the most important sources were Greenberg, González-Vázquez, and Igartua [33,40].

In this article we analysed the most relevant results in terms of gender differences in the uses, consumption habits, and motivations of mobile video games, as well as the possible

implications of the COVID-19 pandemic, especially during the confinement experienced by the Spanish state during 2020.

The research hypotheses we analysed were as follows:

H1. *There are significant differences between the male and female genders in terms of the use and consumption habits of mobile video games.*

H2. *Motivations for competition and challenge are lower for females than for males.*

H3. *The female gender places more value in fantasy motivation than in the other categories analysed.*

H4. *During lockdown, video game consumption increased while maintaining gender differences.*

All the information obtained was input into the SPSS statistical analysis platform in order to extract the data presented in the results, discussion, and conclusions of the article.

3. Results

In Figures 1 and 2, we can observe some general results about the respondents, among which we found that more than half were male (male $F = 358$, female $F = 325$, and other $F = 27$), which is in line with the data on video gamers in Spain. The frequency of different ages of the respondents, as shown in Figure 1, were: $<18 = 43$, $18-21 = 269$, $22-25 = 235$, $26-29 = 65$, and $>29 = 98$. With respect to the data on age, the majority of respondents were distributed between 18 and 25 years of age, with small percentages in the rest of the age groups.

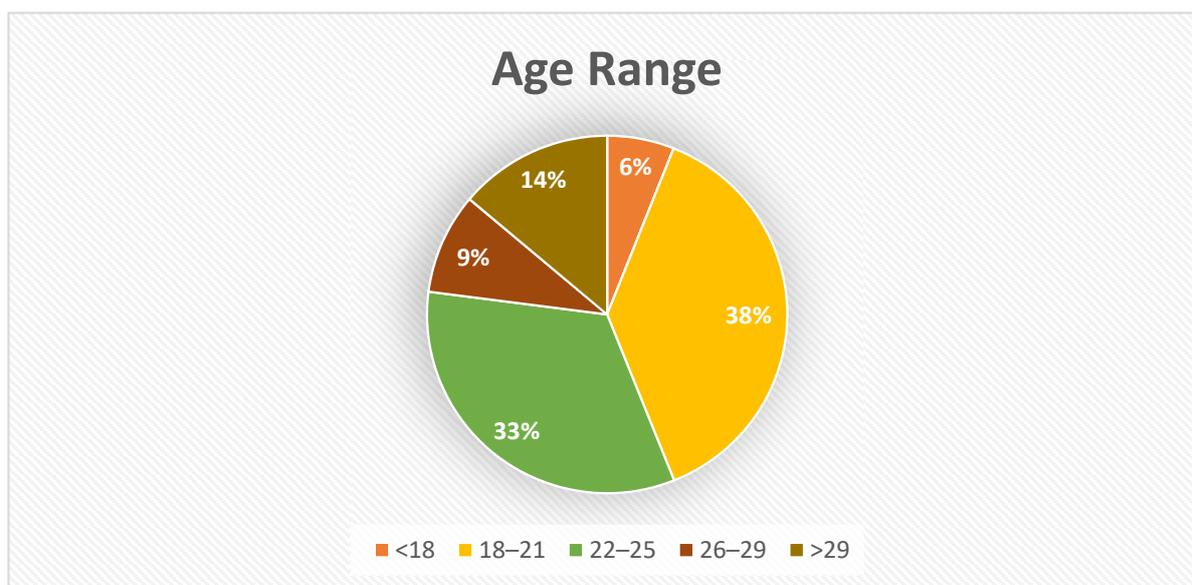


Figure 1. Percentage of age ranges surveyed. Source: own elaboration.

With regard to the range of studies attained, we can see that the vast majority had completed higher secondary school (42.6%), or university studies (28.2%), followed by 11.5% with a lower secondary school education and 10.1% with postgraduate studies (both master's and doctorate degrees), so we were dealing with a university population for the most part.

In Table 1, we can see the percentage of hours of consumption of the respondents, both normally and during lockdown. Lockdown corresponded with an increase in hours, which is logical due to the situation.

Figure 3 allowed us to detect the seven motivations and their means (0 = not agreeing at all and 5 = agreeing completely), which gave us a definitive overview of the study.

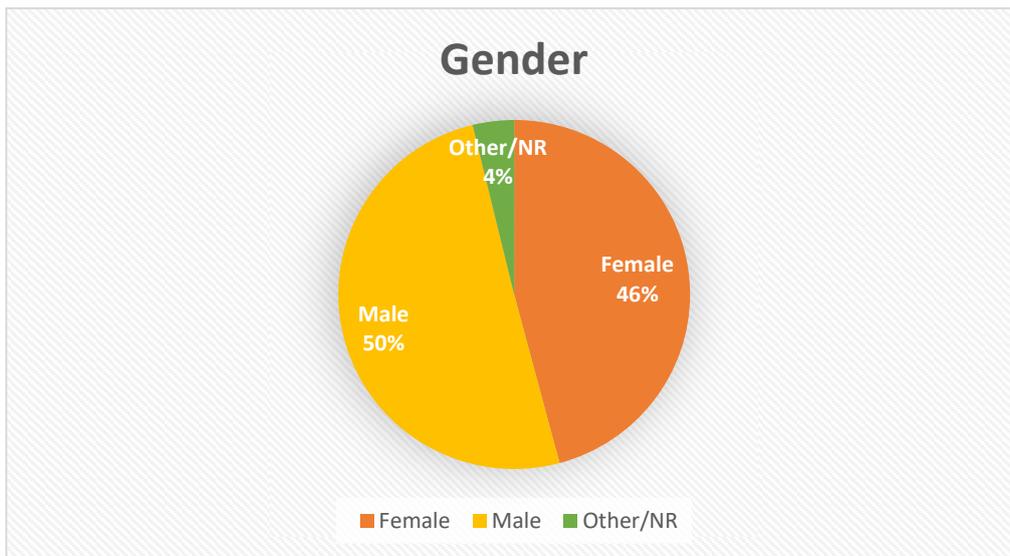


Figure 2. Percentage of genders surveyed. Source: own elaboration.

Table 1. Frequency and percentage of hours of consumption.

H. Consumption	Monday to Friday		Monday to Friday during Lockdown		Saturday to Sunday		Saturday to Sunday during Lockdown	
	F	%	F	%	F	%	F	%
<1 h	182	25.6	107	15	176	24.7	108	15.2
>1 h	225	31.6	178	25	219	30.8	169	23.7
>3 h	156	21.9	178	25	153	21.5	189	26.5
>5 h	57	8	102	14.3	70	9.8	108	15.2
>7 h	25	3.5	80	11.2	27	3.8	71	10

Source: own elaboration.

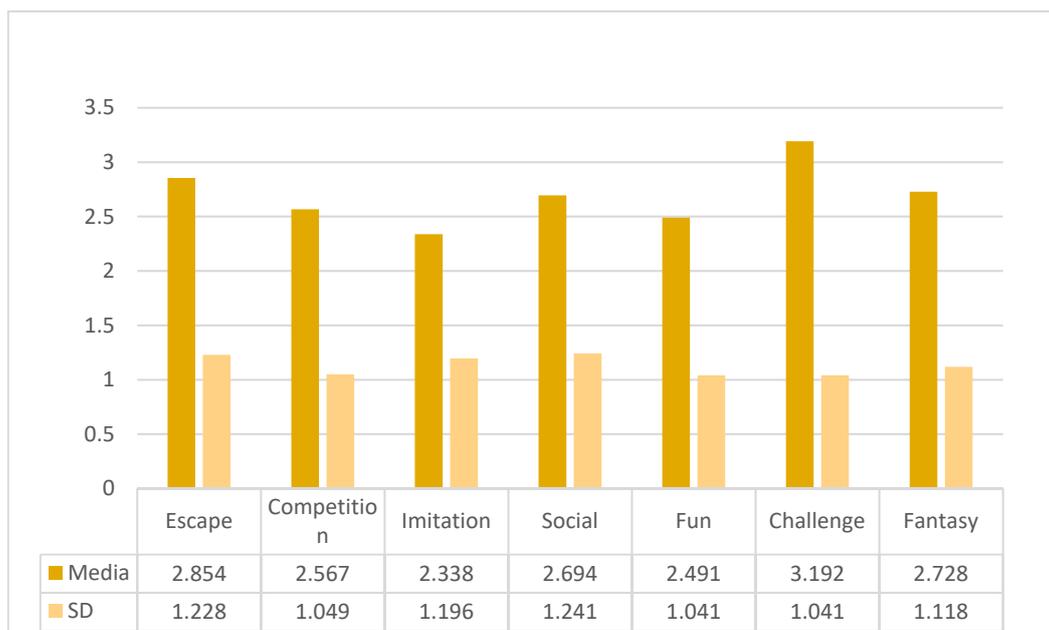


Figure 3. Means and standard deviations of motivations. Source: own elaboration.

As we can see, all motivations had a very similar standard deviation of around 1.1, which means that there was a similar dispersion of data across all motivations in order to obtain a complete picture of respondents’ reasons for playing.

In general, we found similar data for all motivations, but the challenge motivation was the most common one, as it exceeded three points.

On the other hand, imitation and fun were among the lowest-rated motivations. Although we can understand that fun is something taken for granted, video games entertain us as a means of entertainment, and that is why we use them, which could explain these values. Imitation, on the other hand, is a relatively new motivation, born at the dawn of the growth of new entertainment platforms such as Twitch and Youtube.

The rest of the motivations were in the mid-range. In short, respondents sought to be challenged by playing video games and, in addition, this allowed them to escape from the daily reality of their day-to-day lives.

H1. *There are significant differences between the male and female genders in terms of the use and consumption habits of mobile video games.*

In order to test this hypothesis, Student’s *t*-tests were performed on the consumption of hours, both on weekdays and weekends, and in both cases, differences were also established between the lockdown period and when there was no lockdown.

Of the four tests that were carried out (consumption from Monday to Friday in lockdown and on a regular basis, and consumption from Saturday to Sunday in lockdown and on a regular basis), a significant Levene’s *F* was not found for any of the cases, as the test results were all far from a *p*-value of <0.05, so in all cases we assumed that the variances were equal due to these results. Furthermore, when we interpreted the *t*-test data, we observed that they were not significant either, so we concluded that we cannot say that there are differences between the male and female genders in terms of the number of hours spent playing video games.

These data contrast with studies of video game consumption in the last decade, in which there were clear differences in terms of hours of consumption, such as those mentioned by Hartmann et al. With regard to the form of communication, we found that Levene’s *F* test in Table 2 was significant, with *p* < 0.000, so in this case we chose the second row and did not assume equal variances. As we had a *p* = 0.173, we considered that the difference between males and females when it comes to how to communicate was not significant.

Table 2. Student’s *t*-test for form of communication while playing the game.

Variances	Levene’s Test		<i>t</i> -Test for Equality of Means		
	F	Sig.	t	gl	Sig. (Bilateral)
Equal variances are assumed	20.929	0.000	1.349	613	0.178
No assumptions are made about equal variances	-	-	1.363	610.656	0.173

Source: own elaboration.

In the case of activities while playing (Table 3), we found Levene’s test significant at *p* < 0.000. Therefore, we assumed that the variances were not equal. In this case, we also obtained a *t*-test result that was significant for *p* < 0.05, so we affirmed that in this test, there was a significant difference between genders.

Table 3. Student’s *t*-test for activity performed while playing.

Variances	Levene’s Test		<i>t</i> -Test for Equality of Means		
	F	Sig.	t	gl	Sig. (Bilateral)
Equal variances are assumed	170.305	0.000	−2.208	616	0.028
No assumptions are made about equal variances	-	-	−2.226	615.785	0.026

Source: own elaboration.

When we analysed the percentages of activities carried out while playing, we found interesting data. In terms of engaging in several activities while playing, 73.2% of the female gender answered affirmatively, compared to 67% of the male gender. In other words, there is a greater number of women who engage in more than one activity apart from playing than men. It is also noteworthy that there was a higher percentage of women who only play (11.7%) compared to 9.8% of men. On the other hand, we found higher percentages of men that engage in only one activity apart from playing. The male gender listens to music more often (10.1%) compared to 6.9% of the female gender. We can conclude that, with regard to the activities that people engage in while playing, differences were seen between the genders in terms of engaging in a single activity, where men had higher percentages. However, when it comes to focusing solely on the game or engaging in a multitude of activities, the female percentage was considerably higher than that of their male counterparts.

With regard to spending money on video games (Table 4), we obtained a significant Levene value with $p < 0.05$, and also obtained a significant *t*-test result, so we could establish that there are significant differences between the two groups in the amount of money spent on video games. In this case, consumption was higher among males.

Table 4. Student’s *t*-test for spending on video games.

Variances	Levene’s Test		Equality of Means <i>t</i> -Test		
	F	Sig.	t	gl	Sig. (Bilateral)
Equal variances are assumed	6.395	0.012	2.195	618	0.029
No assumptions are made about equal variances	-	-	2.214	617.757	0.027

Source: own elaboration.

In the tests to find out if there are significant differences in terms of game preference for playing (Tables 5 and 6), we found that both at home and when travelling, there were differences with $p < 0.05$, and away from home, there were differences with $p > 0.05$. Therefore, we established that both at home and on the road, there are significant differences in preference.

In conclusion, we established with respect to the hypothesis that there are significant differences in the consumption habits of both groups, although not in the opposite way, as we found that there were no significant differences in variables such as hours of consumption.

All the analyses carried out on the different variables that make up what we consider to be the best definition of the consumption habits of video gamers—the hours of weekly consumption, the form of communication in the video game, the activity while playing,

the expenditure on video games, and the preferences for playing at home and away from home (Table 7)—compose different dimensions of the consumption habits. When analysed individually, they allow us to better understand the gender differences in each consumption habit.

Table 5. Student’s *t*-test for preference for playing at home.

Variances	Levene’s Test		Equality of Means <i>t</i> -Test		
	F	Sig.	t	gl	Sig. (Bilateral)
Equal variances are assumed	0.341	0.560	5.151	618	0.000
No assumptions are made about equal variances	-	-	5.134	599.333	0.000

Source: own elaboration.

Table 6. Student’s *t*-test for preference for playing on the move.

Variances	Levene’s Test		Equality of Means <i>t</i> -Test		
	F	Sig.	t	gl	Sig. (Bilateral)
Equal variances are assumed	6.870	0.009	−2.165	618	0.031
No assumptions are made about equal variances	-	-	−2.144	573.226	0.032

Source: own elaboration.

Table 7. Student’s *t*-test for preference for playing away from home.

Variances	Levene’s Test		Equality of Means <i>t</i> -Test		
	F	Sig.	t	gl	Sig. (Bilateral)
Equal variances are assumed	3.653	0.056	−1.714	609	0.087
No assumptions are made about equal variances	-	-	−1699	570.927	0.09

Source: own elaboration.

H2. *Motivations for competition and challenge are lower for females than for males.*

After observing the data from Levene’s test (Table 8), it was decided to assume equal variances in both cases. Once this was implemented, it was observed that there are significant differences between the means of both motivations, so we can say that our initial hypothesis that the male gender has higher motivational values in competition and challenge was confirmed.

Table 8. Student’s *t*-test on players’ motivations.

Motivations		Levene’s Test		Equality <i>t</i> -Test of Stockings		
		F	Sig.	t	gl	Sig. (Bilateral)
Equal variances are assumed	Competition	0.160	0.690	3.087	609	0.002
	Challenge	0.034	0.854	3.460	609	0.001
No assumptions are made about equal variances	Competition	-	-	3.096	605.986	0.002
	Challenge	-	-	3.457	597.652	0.001

Source: own elaboration.

H3. *The female gender places more value in fantasy motivation than in the other categories analysed.*

As can be seen in Figure 4, in the case of female players, it could not be established that fantasy is a higher motivator than the rest. Challenge was the motivator that was found in a greater frequency than the rest. Therefore, the hypothesis was not confirmed.

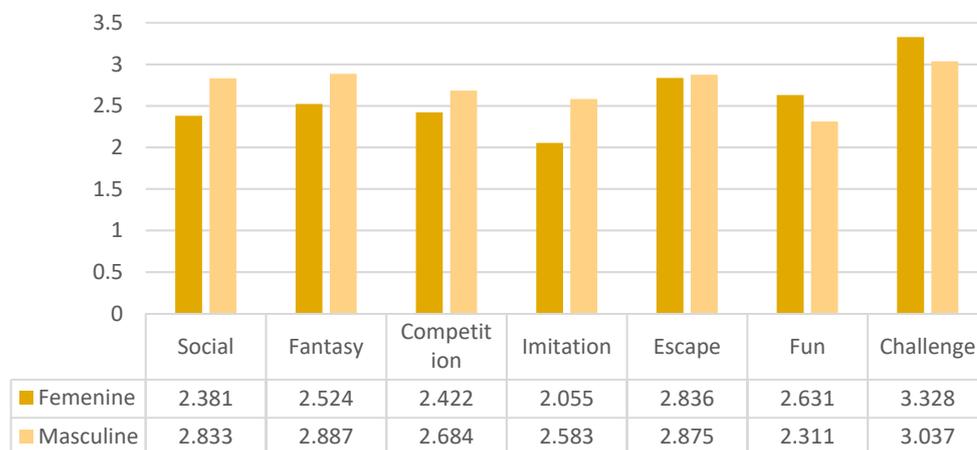


Figure 4. Means and standard deviations for motivations of male and female genders. Source: own elaboration based on the blocks of items 5.1 to 5.5 on motivations.

The graph used to show the differences shows, at a glance, the notable differences between the two genders. Although one of the motivations—avoidance—remained similar for both genders, the rest of the motivations had different values for each group studied.

When we talk about the social, fantasy, and competitive dimensions of video games, we can see how the male gender takes the lead. With higher values in these motivational factors than the female gender, these factors motivate male gamers to use video games more than female gamers. These values are traditionally associated with gamers who, on the one hand, seek to socialise with video games that also involve competition, i.e., they seek to be better than the players they want to socialise with, which is something to be taken into account in other types of qualitative analysis. On the other hand, we can also observe that they seek unreal scenarios and characters, as they have higher fantasy values. Finally, imitation is the last value in which males outperform female gamers by far. This fact may be multifactorial; we can refer to the traditional advertising approach of video games towards the male population, but at this point we believe it is important to highlight other factors. Due to the recent growth of professional video game competitions and the popularisation of the live streaming of video games, it is necessary to look at who the main references are in this field.

We found that, among the top content creators in Spanish, we needed to go down to number 20 to find the first woman, and of the first thirty, there were only two women. With

the lack of female references among the top content creator positions, the task of imitation is complicated by not finding a variety of characters in which women can see themselves reflected [45]. On the other hand, among e-sports players, we found that only 24.4% are women, which explains the lack of this motivation among the female gender [1].

The female gender had a higher score for the values of fun and challenge. This means that we found more female gamers who are gamers because they enjoy it and also because it challenges them to challenge themselves. The latter is key to understanding the gender differences, since men seek to be better than those around them while women seek to better themselves by challenging themselves.

H4. *During lockdown, video game consumption increased while maintaining gender differences.*

As we can see from H1, we can confirm the significant differences between genders with respect to the number of hours of mobile video game consumption before and during the lockdown period, and we can affirm that the differences were maintained, as well as there being an increase in consumption.

As can be seen in Table 9, we did find differences in the percentage of hours played by each of the groups. We found that respondents of the female gender increased their hours of consumption by more than seven hours compared to those of the male gender in lockdown, with a considerable increase compared to their usual consumption.

Table 9. Percentage of usual and lockdown hours of consumption.

H. Consumption	Monday to Friday		Monday to Friday in Lockdown		Saturday to Sunday		Saturday to Sunday in Lockdown	
	Male	Female	Male	Female	Male	Female	Male	Female
<1 h	26.1	30.9	17.9	15.1	24.6	30.9	17.6	15.8
>1 h	37.1	32	25.5	29.9	35.9	31.6	25.2	28.2
>3 h	22.8	25.8	28.3	26.1	23.4	23	28.6	28.2
>5 h	16.4	7.9	16.4	15.5	12.5	9.6	17.9	15.8
>7 h	4.3	3.4	11.9	13.4	3.5	4.8	10.6	12

Source: own elaboration.

In addition, to provide more data on this point, we analysed whether the consumption of video games had increased during the lockdown period using a Likert scale. On this point, the results for both genders were very similar, with values of 3.72 (male) and 3.73 (female) and standard deviations of 1.264 and 1.188, respectively. A Student’s *t*-test confirmed that there were no statistically significant results in the difference in means, which confirmed that consumption increased, but it did not do so differently between the two groups.

With regard to the differences between regular and lockdown consumption, by taking the number of hours as a variable, the results showed that there was a higher percentage of consumption of more than three hours in lockdown and a decrease in consumption of less than one hour, both from Monday to Friday and on weekends.

When we looked at the results of other studies, we also observed an increase in the consumption hours of video games. Taking the latest data from AEFI [1], we see that the average in Spain is 5.1 hours per week; the study was less precise than the one we conducted in this paper, but it allows us to know that, despite the progressive increase in data over the last decade [55], on weekdays during the lockdown, 28.3% of men and 28.9% of women in the studio had already exceeded this figure and on weekends the figure was certainly similar, with 28.5% in men and 27.8% in women exceeding this figure. We used data from the Spanish Association of Video Games, since this association comprises the most important studies that have been carried out in Spain that provide data in the same area as the one studied. We can mention [56], in which the results showed an average of 47.23 min per day playing video games, which would be 3.93 h on weekdays and 1.57 h

on weekends. Our results show that more than 56.6% of men and 55% of women would play more than three hours on weekdays, and 57.1% and 56% on weekends, respectively (Table 9).

4. Conclusions

The data obtained in the survey and the analyses carried out indicate that, despite the existence of differences, these are not as notable as might be expected. It is true that there are significant differences between genders when it comes to playing games, as we have seen in some of the consumption habits, but nevertheless, in variables as relevant as hours of consumption, there are no differences. These are important data that confirm that the gap between genders in the pattern of use and consumption of video games in the age range analysed is narrowing, in what we could understand as the “democratisation” of video games for both genders and age groups. The progressive disappearance of a latent male gender orientation in the development of video games, which is bringing the female public closer to an increasingly significant consumption, is also becoming more and more noticeable. There has been a shift from a “hypersexualisation” of female characters in video games [56] to more realistic components with more neutral motivations that are suitable for all consumers [57]. This has allowed, as we have seen, more female gender individuals to approach video games—in this case, mobile ones—in a healthier way and without the latent “prejudice”.

It should be noted that, as indicated in the introduction to the article, mobile phones can be an important and a more-than-interesting entry point for sectors of the population that have not traditionally been attracted to video games. Mobile devices, in short, are a fundamental access point, as anyone with a mobile device is just a few screen taps away from being able to start playing video games. Unlike consoles or computers, the mobile phone today is practically an extension of people [58,59] and we carry it with us on any journey. The very construction of mobile video games with short games and simple controls allows a very wide audience to have access to them.

As can be seen in the analysis of the motivations of those surveyed, the development of video games is managing to put aside the differences in video games for one gender or another. Despite the fact that there are certain motivations that generate more interest in the male or female gender, the results show that the path taken is to achieve a homogeneous group of video gamers without major differences between one another. Furthermore, although when we look at casual consumers we can find slightly different percentages in the consumption hours between the genders, the percentages become equal as the consumption of hours increases, so we can see that as time goes by, we find the same number of male and female gamers.

Another important piece of data to be taken into account is the increase in the consumption of mobile video games during the lockdown period. These data, which are logical, have allowed us to confirm that, when free time increases and travel and leisure outside the home are eliminated, video games become an essential leisure resource for all sectors of the population, resulting in an increase in their consumption in a conscious and continuous manner.

All the results point to a generalisation of video games in which everyone approaches them in the same way and not with preconceived thoughts that end up tipping the balance to one side or the other. In short, video games have become the reigning entertainment for the population today.

With regard to the limitations of the study, the results obtained are not as extrapolatable as we would have liked them to be, since we had to carry out a snowball sample. Due to the circumstances, it had to be carried out in this way. In successive studies, a significant sampling of the Spanish population will be sought in order to obtain nationally representative data.

On the other hand, we believe that this line of research has a relevant future in the study of video games and should continue to be exploited in the academic world, in

order to continue to understand in detail the consumption habits and motivations of video gamers as well as the gender differences or the disappearance of these differences. Likewise, we believe that qualitative analysis can be one of the best complements for this type of study, as it can help to create a complete map of this field of research, helping to understand all aspects of video game playing in Spain. That is why the aim in the future is to complement this line of analysis with qualitative research that will allow us to discover new motivations for playing video games that can be added to the existing ones or even different consumption habits that arise with the development of new technologies.

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Appendix A

P1.1 This survey deals with the consumption habits, use and motivations of the young population in the consumption of video games on tablets and mobile devices. It is the fieldwork for the main study of the doctoral thesis of Eduardo Rodríguez Barcenilla, from the University of Salamanca (edroba@usal.es). There are no right or wrong answers, please answer honestly, thank you for your collaboration.

End of block: Introduction

Beginning of the block: Control questions

P2.1 I have 1 or more video games installed on my regular mobile device or tablet

Yes (1)

No (2)

Q2.2 During the last six months I have played at least five hours of video games on mobile devices.

Yes (1)

No (2)

Q61 Enter the code of the enumerator who sent the survey.

End of block: Control questions

Beginning of the block: Home and personal data

Q3.1 Q1. Please indicate your gender:

Male (1)

Female (2)

Other (3)

I prefer not to indicate (4)

Q3.2 Q2. Indicate your age range:

Under 18 (1)

18–21 (2)

22–25 (3)

26–29 (4)

Over 29 (5)

Q3.3 Q3. Indicate your income level, 1 being Low Income and 7 being High Income.

Low income High income

1 5

Income level ()

Q3.4 Q4. Indicate the highest level of education attained.

- Secondary education (1)
- Baccalaureate (2)
- University degree (3)
- Master (4)
- PhD (6)
- Other (7)

Q3.5 Q5. Please indicate the situation that best suits your current situation

- Student (1)
- With work (2)
- Studying and working (3)
- Unemployed (4)
- Other situation (6)

End of block: Home and personal data

Beginning of the block: Usage/consumption habits

Q4.1 Q6. Please indicate the order of your favourite video game genres. Most favourite first and least favourite last.

_____ MOBA (P.E: Arena of Valor, Vainglory. League og Legends Wild...) (1)

_____ FPS (Shooting) (2)

_____ Letters (3)

_____ RTS (strategy) (4)

_____ Puzzle (5)

_____ Fights (6)

_____ Simulators (7)

Q4.2 Q7. Please indicate the number of devices that you own and regularly play on

0 (1) 1 (2) 2+ (3)

Laptop computer (1)

Desktop computer (2)

Console (3)

Portable console (4)

Tablet (5)

Mobile phone (6)

Smart TV (7)

Smartwatch (8)

Q4.3 Q8. Please indicate your level of preference for playing video games on tablets and/or mobile phones (1 least preferred, 5 most preferred).

1 (1) 2 (2) 3 (3) 4 (4) 5 (5)

At home with mobile phone (1)

At home with the tablet (2)

On the move with a mobile phone (3)

On the move with tablet (4)

Away from home with mobile phone (5)

Away from home with tablet (7)

Q4.4 Q9. Please indicate the usual times you play video games on tablets and/or mobile phones from Monday to Friday:

Morning (08:00–15:00 h) (1) Afternoon (15:00–21:00 h) (2) Night (21:00–06:00 h) (3)

At home (1)

On journeys between home and work or place of study (2)

In specialised centres (3)

Q4.5 Q10. Please indicate the usual hours of playing video games on tablets and/or mobile phones from Monday to Friday, while lockdown was maintained (March-June 2020):

Morning (08:00–15:00 h) (1) Afternoon (15:00–21:00 h) (2) Night (21:00–06:00 h) (3)

At home (1)

On journeys between home and work or place of study (2)

P4.6

Q11. What are the usual times you play video games on tablets and/or mobile phones on Saturdays and Sundays?

Morning (08:00–15:00 h) (1) Afternoon (15:00–21:00 h) (2) Night (21:00–06:00 h) (3)

At home (1)

On journeys between home and work or place of study (2)

In specialised centres (3)

Q4.7 Q12. Indicate the usual times of playing video games on tablets and/or mobile phones on Saturdays and Sundays while lockdown was maintained (March–June 2020):

06:00–08:00 a.m. Morning (08:00–15:00 h) (1) Afternoon (15:00–21:00 h) (2) Night (21:00–06:00 h) (3)

At home (1)

On journeys between home and work or place of study (2)

Q4.8 Q13. Please indicate how much you agree or disagree with the following statements (1 not at all, 5 completely agree):

No agreement at all Completely agree

1 5

During my forties I increased my consumption of video games on mobiles and/or tablets ().

I used video games on mobiles and tablets as an escape from the lockdown ()

Q4.9 Q14. What is the average amount of time spent on tablets and/or mobile phones that you usually spend on average from Monday to Friday?

Less than one hour (1)

More than 1 h (2)

More than 3 h (3)

More than 5 h (4)

More than 7 h (5)

Q4.10 Q15. Please indicate the average amount of time spent on tablets and/or mobile phones that you usually spent on average from Monday to Friday during the lockdown period:

Less than one hour (1)

More than 1 h (2)

More than 3 h (3)

More than 5 h (4)

More than 7 h (5)

Q4.11 Q16. Please indicate the average amount of time spent on tablets and/or mobile phones that you usually spend on weekends:

Less than one hour (1)

More than 1 h (2)

More than 3 h (3)

More than 5 h (4)

More than 7 h (5)

Q4.12 Q17. Please indicate the average amount of time spent on tablets and/or mobile phones that you usually spent on weekends during the lockdown period:

Less than one hour (1)

More than 1 h (2)

More than 3 h (3)

More than 5 h (4)

More than 7 h (5)

Q4.13 Q18. How often/intensively do you usually play video games on tablets and/or mobile phones during the week (0 not very often and 100 very often)?

0 25 50 75 100

Friends ()

Friends I have met in the games ()

Family ()

Unknown ()

Solo ()

Q4.14 Q19. How often/intensively do you usually play video games on tablets and/or mobile phones during the weekend?

0 25 50 75 100

Friends ()

Friends I have met in the games ()

Family ()

Unknown ()

Solo ()

Q4.15 Q20. Please indicate how you usually communicate with who you play with on tablets and mobile phones:

Discord (1)

TeamSpeak (2)

Game chat (6)

Whatsapp (3)

Other (5)

I do not use any programme (4)

Q4.16 Q21. How often do you talk to friends, family or strangers about the video games you play (0 not very often and 100 very often)?

Infrequency High frequency

0 25 50 75 100

2 ()

Q4.17 Q22. Please indicate how often you have recommended video games on mobiles and/or tablets in the last six months (0 never and 100 very often)

Low frequency High frequency

0 25 50 75 100

Family members ()

Friends ()

Friends I've met in video games ()

Unknown ()

Q4.18 Q23. Please indicate whether you do any other activity while playing video games on your mobile device or tablet (please select multiple):

Watching TV (1)

Listening to music and/or radio (2)

I talk to whoever is close to me (4)

Eating (6)

Being in the bathroom (7)

Walking/ Sport (8)

Other (9)

No other activity (5)

Q4.19 Q24. What did you spend in the last 6 months on video games for tablets and/or mobile phones?

I have spent nothing (7)

Less than EUR 20 (1)

Between EUR 20 and 30 (2)

Between EUR 30 and 40 (3)

Between EUR 40 and 50 (4)

- o Over EUR 50 (5)

Q4.20 Q25. Please indicate your spending in the last 6 months on video games for tablets and/or mobile phones (skins, upgrades, skins, skins, battle passes, etc.).

- o I have spent nothing (6)
- o Less than EUR 20 (1)
- o Between EUR 20 and 30 (2)
- o Between EUR 30 and 40 (3)
- o Between EUR 40 and 50 (4)
- o Over EUR 50 (5)

Q4.21 Q26. indicate the number of video games installed on your mobile and tablet devices

- | | | | | | | |
|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| None (1) | 1 (2) | 2 (3) | 3 (4) | 4+ (5) | | |
| Mobile phone (1) | | <input type="radio"/> |
| Tablet (2) | <input type="radio"/> | |
| Portable console (3) | | <input type="radio"/> |

Q4.22 Q27. Please indicate the video games that you have installed on your mobile/tablet device and played in the last six months (select all that apply):

- Clash Royale (1)
- Brawl Stars (2)
- Clash of Clans (3)
- Call of Duty: Mobile (4)
- Fortnite Mobile (5)
- Pokémon Go (6)
- Candy Crush Saga (8)
- Among Us (9)
- PUBG Mobile (12)
- Other (11)

End of block: Usage/consumption habits

Beginning of the block: Motivations

Q5.1 Q20. Please indicate your agreement or disagreement with the following statements, where 5 strongly agree and 1 strongly disagree. statements, with 5 strongly agreeing and 1 strongly disagreeing. disagree.

- | | | | | | |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1 (1) | 2 (2) | 3 (3) | 4 (4) | 5 (5) | |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| My friends and I use video games as a way to be together (4) | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| <input type="radio"/> | <input type="radio"/> | | | | |
| It is important for me to be the fastest and most skilful playing a game (5). | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | |
| My group of friends usually spends time together playing video games (6). | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | |
| I play video games because they stimulate my emotions (7) | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| <input type="radio"/> | <input type="radio"/> | | | | |
| Video games allow me to learn how to react in certain situations (8) | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | | |

Q5.2 Q21. Please indicate your agreement or disagreement with the following statements, where 5 strongly agree and 1 strongly disagree. statements, with 5 strongly agreeing and 1 strongly disagreeing. disagree.

- | | | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1 (1) | 2 (2) | 3 (3) | 4 (4) | 5 (5) | |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| I play video games while I should be doing other things (3) | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| <input type="radio"/> | <input type="radio"/> | | | | |
| I keep playing until I level up or complete the level (4). | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> | | | | |
| Video games allow me to pretend that I am someone else or that I am somewhere else (5) | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |

o Playing video games increases my adrenaline levels (6) o o o
o o

o I play video games that allow me to learn new tasks (7) o o o
o o

Q5.3 Q22. Please indicate your agreement or disagreement with the following statements, where 5 strongly agree and 1 strongly disagree. statements, with 5 strongly agreeing and 1 strongly disagreeing. disagree.

1 (1) 2 (2) 3 (3) 4 (4) 5 (5)

When I lose to someone, I immediately want to play again to prove that I can beat them (2). o o o o o

I get angry when I lose to friends (3) o o o o o

When I play video games I try to emulate what I have seen in a professional competition (4). o o o o o

o I enjoy finding creative strategies to use while playing (5) o o o
o o

o I play video games because they allow me to meet new people (6) o o
o o o

Q5.4 Q23. Please indicate your agreement or disagreement with the following statements, where 5 strongly agree and 1 strongly disagree. statements, with 5 strongly agreeing and 1 strongly disagreeing. disagree.

1 (1) 2 (2) 3 (3) 4 (4) 5 (5)

o I play video games when I have chores to do (1) o o o o
o

o I play video games because they let me do things I don't do in real life (2) o
o o o o

o I enjoy the thrill of taking on a role in the game (3) o o o o
o

o I like to do things that I wouldn't normally be able to do in real life through video games (4) o o o o o

o My friends and I use video games as a way to be together (5) o o o
o o

Q5.5 Q24. Please indicate your degree of agreement or disagreement with the following statements, where 5 strongly agree and 1 strongly disagree. statements, with 5 strongly agreeing and 1 strongly disagreeing. disagree.

1 (1) 2 (2) 3 (3) 4 (4) 5 (5)

o When I play video games I try to imitate my idols (professional gamers or content creators, streamers) (1). o o o o o

o Video games keep me on the edge of my seat (2) o o o o
o

o I play video games because they excite me (3) o o o o
o

o I like to play to prove to my friends that I am the best (4) o o o
o o

o I am proud when I am the best in one aspect of the game (5) o o o
o o

o I find it very rewarding to advance to the next level/rank (6) o o o
o o

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