



Received: October 30, 2025
Reviewed: April 17, 2026
Accepted: April 29, 2026

Corresponding author's address:

Facultad de Ciencias de la
Educación y Humanidades.
Universidad Internacional de La
Rioja. Avenida de la Paz 137, 26006
Logroño (Spain)

E-mail / ORCID

adoracion.diazlopez@unir.net



<https://orcid.org/0000-0002-8841-3701>

ARTICLE / ARTÍCULO

Video games in secondary education students: a psychosocio-educational perspective

Videojuegos en alumnado de educación secundaria: una perspectiva psicosocio-educativa

Adoración Díaz-López

Abstract: Problematic video game use is one of the main educational and social concerns today, especially during adolescence, a stage in which digital technologies play a central role in leisure, socialisation and everyday life. This study analyses various indicators associated with problematic video game use among secondary education students, focusing on its possible academic, psychological and social implications. The objectives of the study were to identify behaviours that indicate problematic video game use; to analyse the relationship between frequency of use and these indicators; to examine the association between these behaviours and technological stress; and to explore the relationship between gaming frequency and social skills. The sample consisted of 1,101 adolescents. The results show that 24.4% of young people acknowledge abandoning, interrupting or neglecting school duties in order to spend more time playing video games. Likewise, a higher frequency of use is associated with greater irritability when gaming is interrupted, a greater need to increase gaming time and more interference in daily life. An association is also identified between indicators of problematic use and technological stress. Finally, students who make more intensive use of video game consoles show lower assertiveness, a greater preference for virtual interaction and a stronger tendency to reduce face-to-face social activities.

Keywords: Video Games; Adolescents; Secondary School Students; Technology Uses In Education; Stress Variables; Social Skills; Behavior Problems.

Resumen: El uso problemático de videojuegos constituye una de las principales preocupaciones educativas y sociales actuales, especialmente durante la adolescencia, etapa en la que las tecnologías digitales ocupan un lugar central en el ocio, la socialización y la vida cotidiana. Esta investigación analiza diversos indicadores asociados al uso problemático de videojuegos en alumnado de Educación Secundaria, atendiendo a sus posibles implicaciones académicas, psicológicas y sociales. Los objetivos del estudio fueron identificar comportamientos que evidencien un uso problemático de videojuegos; analizar la relación entre la frecuencia de uso y dichos indicadores; estudiar la asociación entre estos comportamientos y el estrés tecnológico; y examinar la relación entre la frecuencia de juego y las habilidades sociales. La muestra estuvo compuesta por 1.101 adolescentes. Los resultados muestran que el 24,4% de los jóvenes reconoce abandonar, interrumpir o descuidar obligaciones escolares por pasar más tiempo jugando. Asimismo, se observa que una mayor frecuencia de uso se relaciona con más irritabilidad ante la interrupción del juego, mayor necesidad de aumentar el tiempo de juego y más interferencias en la vida diaria. También se identifica una asociación entre los indicadores de uso problemático y el estrés tecnológico. Finalmente, los estudiantes que hacen un uso más acusado de la videoconsola presentan menor asertividad, una mayor preferencia por la interacción virtual y una tendencia superior a reducir actividades sociales presenciales.

Palabras-clave: Videojuegos, Adolescentes, Estudiantes de secundaria, Uso educativo de la tecnología, Estrés, Habilidades sociales, Conducta problemática.

1. Introduction

Young people in today's society belong to the so-called Generation Z, the first generation born in the 21st century, fully immersed in technology. Taking society as the shaper of identity, these young people have grown up with different conceptions of time and space, immersed in immediacy and the chaotic evolution of the present day (Vázquez & Mouján, 2016). Adolescents of Generation Z incorporate ICT as another element in their learning and socialisation process (Urosa, 2015). Furthermore, they spend a large part of their time in cyberspace, where, within a multisensory virtual environment, they relate to and interact with one another, exchange information, communicate with peers, interact with strangers, make new friends, and have fun playing games. Nevertheless, it is indisputable that ICT has become an indispensable resource in the daily lives of young people. According to the latest data issued by the INE (2021) in Spain, 96% of 15-year-old adolescents have access to the Internet and 99% report using it for an average of more than 3 hours a day (Díaz-Vicario et al., 2019).

Although Internet and ICT use is widespread among people regardless of age, their most striking influence is found among the younger population. The health crisis caused by COVID-19 has only accentuated technology consumption figures among young people. These devices have become indispensable for communicating with peers, engaging with the world, and continuing their academic education (Montaña-Blasco et al., 2020). This context of high technological exposure creates a favourable scenario for analysing not only the opportunities, but also the risks associated with the intensive use of ICT during adolescence.

1.1. Problematic ICT and Video Game Use

In the new emerging social context, the use and development of ICT by adolescents implies new opportunities for their growth, autonomy, development, and personal education, but also the possible emergence of new risks associated with dysfunctional use (Díaz-López et al., 2020; Rodríguez-Rodríguez & García-Padilla, 2021; Montag & Hegelich, 2020). Problematic ICT use is defined as those behaviours related to neglecting family, educational, or social responsibilities in order to spend more time on the Internet and playing video games, reduced academic performance, preferring virtual relationships over real ones, showing restlessness when not receiving messages or calls, sleep disturbances due to mobile phone use, aggressiveness or irritation when interrupted while using devices, etc. (Díaz-López et al., 2020). Following the approach of Polo and Vargas (2024), adolescents constitute a risk group for the development of behaviours compatible with ICT addiction, as they are constantly seeking new sensations and, given their characteristics, represent a particularly vulnerable population (Aznar et al., 2020; González-Álvarez et al., 2025).

1.2. Consequences of Problematic Video Game Use

The literature has identified various consequences associated with problematic video game use, which can be grouped into the academic, psychological, and social domains. One of the main sources of concern is the enormous amount of time that young people spend immersed in ICT, as if absorbed by screens, devoting hours and hours of their time to them (Díaz-Vicario et al., 2019; Aznar et al., 2020). However, if there has been one controversy that has had a major impact over recent years, it has been the one

concerning problematic video game use and the growing demands from the scientific and healthcare communities to have this activity classified as a mental disorder.

In this regard, it seems that the scientific evidence accumulated over the last decade, together with the pressure exerted by associations such as the American Medical Association, which advocates including video game use as a subtype of addictive disorder (Lloret et al., 2017), led the WHO to officially recognise video game addiction as a mental disorder at the end of 2019 (Arroyo, 2019), under the name Gaming disorder, with clinical implementation beginning in 2022. Furthermore, the new regional addiction plan for the period 2019–2024 incorporated online video game dependence into the DSM-5, as certain gaming behaviours stimulate reward systems similar to those activated by drugs, producing behavioural symptoms comparable to those caused by substances (Sánchez-Domínguez et al., 2021; Carbonell, 2020; Delgado, 2026).

In the present study, this issue was addressed from the perspective of problematic use, without assessing whether or not it constitutes an addiction. In this regard, problematic use is defined as actions related to neglecting family, educational, or social obligations in order to spend more time on the Internet and playing video games; reduced academic performance; a preference for virtual relationships over face-to-face relationships; sleep disturbances; and aggressiveness or irritation when interrupted while playing (Díaz-López et al., 2020). For this reason, video games are one of the main forms of entertainment in contemporary society and, moreover, constitute the preferred leisure activity among young people. Accordingly, the prevalence of problematic video game use in representative samples ranges from 1.2% to 8.5% (Griffiths et al., 2016). It should be noted that, although electronic devices do not in themselves pose a potential danger, the almost uninterrupted use of ICTs may interfere with the normal development of adolescents' daily lives.

In this respect, Díaz-López (2021) establishes a relationship between a high frequency of video game use and a decline in academic performance. Gómez-Gonzalvo et al. (2020), for their part, identify descriptive indicators of psychological pathologies, such as depression or anxiety, in the problematic use of video game consoles. Along these lines, Díaz-López et al. (2020) found statistically significant associations between the frequency of video game use and technostress. Similarly, a recent review study reports that problematic video game use is associated with higher levels of long-term stress (Pallavici et al., 2022).

With regard to adolescents' social sphere, a particularly concerning issue is the transformation that social relationships have undergone. In this respect, Sánchez-Díaz de Mera and Lázaro-Cayuso (2017) point out that the use of technology has modified the way individuals communicate with others, and they maintain that ICTs occupy an almost central role in the socialization process, influencing the behaviours and attitudes of younger people (García-Oliva et al., 2017; Gracia-Granados et al., 2020). Furthermore, Puerta-Cortés and Carbonell (2014) warn that ICT use displaces the time young people spend in the "real" world, redirecting it towards the "virtual" world. Díaz-Vicario et al. (2019) and Romero (2025) likewise indicate that extensive ICT use may lead to a deterioration in social skills, which may in turn result in a decline in social relationships. Previous studies on this topic reveal that almost 5% of students report having reduced the time they spend with their friends because of ICTs (García et al., 2014). Viñals and Cuenca (2016), for their part, presented findings from their qualitative

study in which young people highlighted the existence of substantial differences between face-to-face and virtual communication.

1.3. Justification of the study

Despite the growing interest in video game use, evidence regarding its negative impact on social skills remains limited, which justifies the need to explore this relationship further. The most recent publications focus on analysing video game use and its contribution to the development of social skills (Molano & Suárez, 2022). However, there is little literature analysing the negative impact that problematic video game use has on social skills.

Based on this premise, four specific objectives were established: 1) To describe behaviours indicating psychologically based problematic video game use. 2) To analyse the relationship between the frequency of video game use and indicators of problematic video game use. 3) To analyse the relationship between indicators of problematic video game use and technological stress. 4) To analyse the frequency of video game use and its impact through its association with social skills.

2. Methodology

The research design was a quantitative non-experimental survey study. A cross-sectional design was used; therefore, the study focused its analysis on a specific point in time (Sáez-López, 2017). The sample consisted of a total of 1,101 participants, of whom 47.8% were boys and 52.2% were girls, enrolled in 1st year of compulsory secondary education (32.4%), 2nd year (22.3%), 3rd year (24.3%), and 4th year (21%), aged between 11 and 18 years (17% aged between 11 and 12 years, 46.1% between 13 and 14 years, and 36.2% between 15 and 18 years). This sample, representative at the 95% confidence level with a maximum estimation error of 5%, was obtained through a probabilistic sampling process by selecting 10 public schools from the nine districts that make up the Region of Murcia. The inclusion criteria were as follows: adolescents enrolled in 1st, 2nd, 3rd, and 4th year of compulsory secondary education (ESO) attending the ten selected schools. It was not necessary to establish exclusion criteria due to the nature of the study (Otzen & Manterola, 2017).

2.1. Instrument

The Ud-TIC questionnaire (Maladaptive Use of ICT) ($\alpha = .841$) (Díaz-López et al., 2022) was used. The instrument consists of:

- Sociodemographic data: This section comprises seventeen questions regarding personal information (age, sex, school year, and region). Attitude towards studying and ICT interference with studying (three items; 5-point Likert scale). Family supervision of Internet and social network use (1 item; dichotomous response). Adult responsible for supervision (1 item; polytomous response). ICT access schedule (1 item; polytomous response). Technological stress (1 item; dichotomous response).
- Problematic ICT use: This section consists of nineteen items, three of which are related to the frequency of use of video games (1. Never; 2. Almost never; 3.

Only at weekends; 4. Several times a week; 5. Every day), mobile phones (1. Never; 2. Only when I need it; 3. Frequently; 4. A lot; 5. At all times), and other Internet-connected devices (1. Never; 2. Only when I need them; 3. Frequently; 4. A lot; 5. At all times). The remaining sixteen items assess experiences related to the problematic use of mobile phones, the Internet, and video games (5-point Likert scale: 1. Never; 2. Sometimes; 3. Almost always; 4. Quite often; 5. Always). However, for the purposes of this study, only those items related to experiences associated with problematic video game use were analysed.

2.2. Procedure

An informed consent document was provided, and authorisation was requested from each participant's parents or legal guardians. Students were provided with an informed assent document explaining the anonymous and voluntary nature of their participation. Both documents were previously approved by the Research Ethics Committee of the University of Murcia. The instrument was administered in paper format. Data collection took place during tutorial periods and in the presence of the class tutor, who was informed about the session procedure and was provided with the Ud-TIC questionnaire beforehand so that they would be familiar with it. Completion of the questionnaire took between 12 and 20 minutes.

2.3. Data Analysis

A descriptive analysis of the sample was conducted by calculating measures of central tendency (mean and standard deviation). The Kolmogorov-Smirnov (K-S) normality test was applied, revealing that the sample did not follow a normal or symmetrical distribution ($p \leq .05$). Consequently, non-parametric tests were used, specifically the Mann-Whitney U test (for two groups) and the Kruskal-Wallis test (for more than two groups). To establish relationships between variables, contingency tables and Pearson's chi-square test were employed to determine the existence of statistically significant associations. Cramer's V was used to assess the magnitude of statistically significant associations.

2.4. Ethical Considerations

This research was approved by the Research Ethics Committee of the University of Murcia. The study was conducted in accordance with the principles of the Declaration of Helsinki and approved by the Research Ethics Committee of the University of Murcia, Protocol code 2306/2019. Students participated voluntarily and anonymously when completing the questionnaire. The study complied with the privacy and data protection policy (APA Standard 4.1). Likewise, participants were informed that they could withdraw from the study at any time (APA Standard 8.2).

3. Results

First, the results addressing the first objective are presented. This objective focused on describing psychological behavioural indicators of problematic video game use at the general level and according to sex and school year.

3.1. Psychological Indicators of Problematic Video Game Use at the General

Level, by Sex and School Year

The data analysis, as shown in Table 1, indicates that 24.4% of adolescents abandon what they are doing in order to play video games. 19.8% of the young participants who report high console use become angry or irritated when someone bothers them while they are playing, while this occurs "sometimes" for 26.6% of them. Furthermore, 11.9% of the students feel the need to spend increasingly more time playing in order to feel satisfied.

Table 1. Descriptive statistics of the indicators of problematic video game use.

Ítem	Always n (%)	Almost always n (%)	Quite often n (%)	Sometimes n (%)	Never n (%)	M	Md	SD
You stop what you are doing in order to play video games	91 (8.3)	105 (9.5)	73 (6.6)	278 (25.2)	554 (50.3)	4.0 0	5	1.30
You get angry or irritated when someone bothers you while you are playing	60 (5.4)	62 (5.6)	97 (8.8)	293 (26.6)	589 (53.5)	4.1 7	5	1.15
You feel the need to spend increasingly more time playing in order to feel satisfied	31 (2.8)	40 (3.6)	61 (5.5)	179 (16.3)	790 (71.8)	4.5 0	5	0.96

Note. Values indicate frequency (n) and percentage (%). M = mean; Md = median; SD = standard deviation.

With regard to sex, the results indicate the existence of statistically significant differences between boys and girls regarding disproportionate reactions to interruptions during online gaming, with boys showing the greatest level of problematic behaviour ($p < .001$). Thus, 30% of boys become angry or irritated if someone bothers or interrupts them while they are playing. Among girls, by contrast, only 10% become upset if their gaming activity is interrupted. Additionally, 17% of boys report that they frequently feel the need to spend increasingly more time playing video games in order to feel satisfied, followed by 24% who state that this occurs sometimes ($p < .001$). Likewise, 28% of boys report that they frequently neglect their tasks in order to play video games, whereas among girls only 20% neglect or abandon other activities in order to play. Statistically significant differences were found between neglecting tasks to play video games and sex ($p < .001$).

Regarding school year, no statistically significant differences were found in relation to the occurrence of irritation or anger when gameplay is interrupted ($p = .308$), nor with respect to the need to spend increasingly more time using the console in order to feel satisfied ($p = .150$). However, the data analysis revealed statistically significant differences according to school year with respect to neglecting tasks in order to play video games, with third-year secondary education students (3rd ESO) showing the greatest level of problematic behaviour ($p < .001$). Thus, 35% of students in 3rd year of compulsory secondary education frequently abandon what they are doing in order to play video games, compared with 25% of students in 1st year, 22% of students in 4th year, and 18% of students in 2nd year.

3.2. Relationship Between Gaming Frequency and Indicators of Problematic Video Game Use

To address the second objective, which focused on analysing the relationship between video game use frequency and indicators of problematic video game use, it should first be noted that the participants who showed the highest levels of anger when interrupted or bothered while playing were those who played every day (27.5%), followed by those who played several times a week (6.3%), only at weekends (6.3%), rarely (3.6%), and never (2.0%). Statistically significant differences were found between video game use frequency and irritability or anger when gameplay is interrupted ($\chi^2(16) = 249.090, p \leq .001$) with a small effect size ($V < .10$). Therefore, the data analysis indicates that a higher frequency of video game use is associated with greater irritability when gameplay is interrupted.

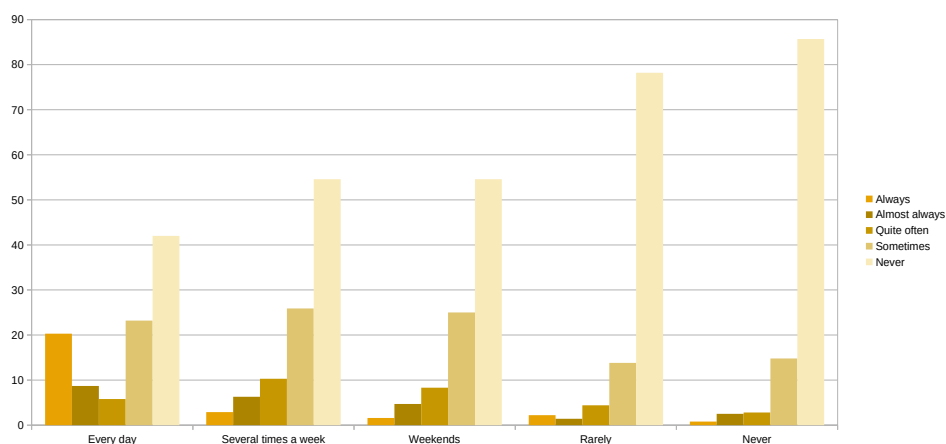


Figure 1. Relationship between the frequency of video game use and the need to spend more time playing.

Note. The values represent the percentage of adolescents in each category of gaming frequency (daily, several times a week, weekends, rarely, and never) who report an increasing need to spend more time playing.

Along these lines, as shown in Figure 1, 29% of adolescents who play daily report needing to spend increasingly more time playing in order to feel satisfied. In contrast, the percentage reporting this need is noticeably lower among those who play several times a week (9.2%), only at weekends (6.3%), rarely (3.7%), and never (3.4%). A statistically significant relationship was found between video game use frequency and the need to spend increasingly more time playing in order to feel satisfied ($\chi^2(16) = 180.614, p \leq .01$) with a small effect size ($V < .10$).

Additionally, those young people who report a higher frequency of video game use are also the ones who most frequently neglect their responsibilities in order to continue playing. Thus, 34.8% of those who play every day neglect their responsibilities in order to spend more time playing, followed by 23.6% of those who play several times a week, 11.4% of those who play only at weekends, and 17.5% of occasional players. A statistically significant relationship was found between video game use frequency and neglecting responsibilities of various kinds ($\chi^2(20) = 130.563, p \leq .01$) with a small effect size ($V < .10$).

3.3. Association Between Problematic Video Game Use and Technostress

To address the third objective, which focused on analysing the relationship between indicators of problematic video game use and technological stress, it should be noted that a statistically significant association was found between irritability when gameplay is interrupted and technological stress ($\chi^2(4) = 30.550$, $p \leq .001$) with a small effect size ($V < .10$). Thus, 48.3% of the young people who always become irritated when their gameplay is interrupted and 50.0% of those who become irritated almost always report feeling technologically stressed, whereas among those who become irritated only sometimes when prevented from playing, only 24.9% report feeling stressed. Likewise, as shown in Figure 2, a statistically significant relationship was found between the need to spend increasingly more time playing in order to feel satisfied and technological stress ($\chi^2(4) = 47.068$, $p \leq .001$) with a small effect size ($V < .10$). This indicates that those users who report a greater need to spend more time playing (64.5% responding Always and 60% responding Almost always) experience higher levels of technological stress than those who report this need only Sometimes (34.1%).

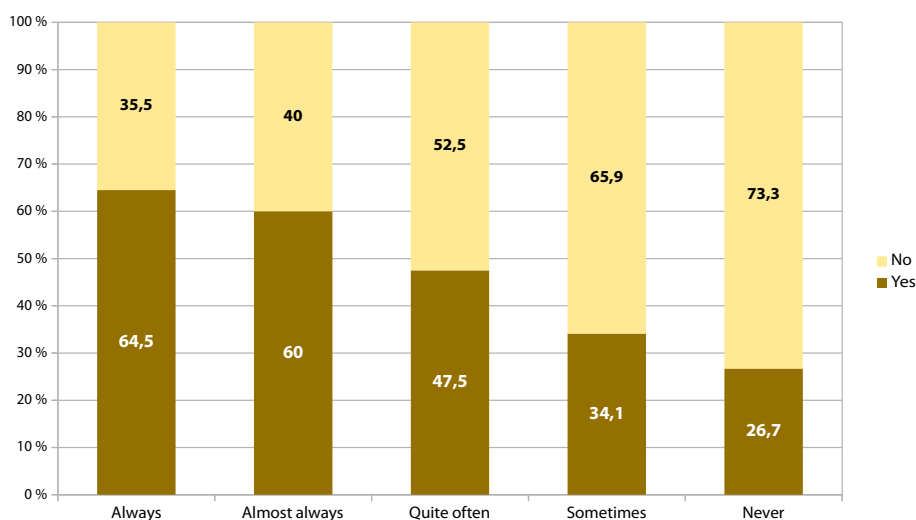


Figure 2. Relationship between technological stress and the need to spend increasingly more time playing.

Note. Values represent the percentage of adolescents reporting technological stress according to their need to spend increasingly more time playing (Never, Sometimes, Quite often, Almost always, and Always)

Additionally, the data analysis highlights that those young people who stop going out with their friends in order to play video games are also the group reporting the highest levels of technological stress ($\chi^2(4) = 14.901$, $p \leq .005$) with a small effect size ($V < .10$). Thus, 63% of students who always stop going out in order to spend more time playing video games report feeling stressed, followed by 50% of those who almost always stop going out to spend more time playing. In contrast, among students who stop going out with their friends in favour of gaming only sometimes, the percentage of stressed adolescents decreases considerably (37.2%). Conversely, no statistically significant relationship was found between neglecting responsibilities in order to play video games and technological stress ($\chi^2(4) = 7.766$, $p \leq .101$) with a small effect size ($V < .10$).

3.4. Frequency of video game use and its impact on social skills

Finally, in order to address the last specific objective, which focused on analysing the frequency of video game use and its impact on social skills, it is necessary to point out that students who make more intensive use of the video game console show lower assertiveness when expressing a different opinion face-to-face than those who play less frequently. Thus, 31.8% of young people who play video games every day admit that expressing an opinion different from that of another person during face-to-face interaction is slightly (10.1%) or very slightly (21.7%) characteristic of themselves. In contrast, among those who play only at weekends, only 18.8% acknowledge that expressing a different opinion in a face-to-face interaction is slightly or very slightly characteristic of themselves. Among occasional players, this percentage is 17.7%. The data analysis indicates the existence of a statistically significant relationship between the frequency of video game console use and the ability to express a different opinion in person ($\chi^2(20) = 46.640$, $p \leq .05$) with a small effect size ($V < .10$).

With regard to the virtual environment, those adolescents who use the console more frequently are also those who show lower levels of assertiveness ($\chi^2(16) = 27.361$, $p \leq .05$, $V = .038$). In this regard, 31.9% of users who use the console every day indicate that expressing a different opinion on the Internet is slightly or very slightly characteristic of their way of being. In contrast, among weekend players, this percentage decreases to 22.9%. Likewise, the data analysis highlights the existence of a statistically significant relationship between the frequency of video game console use and the preference for virtual communication ($\chi^2(16) = 72.996$, $p \leq .01$) with a small effect size ($V < .10$), with those students who report the highest frequency of use being those who prefer virtual communication.

Thus, as shown in Table 2, 46.3% of students who play the console every day state that they find it easier to interact through the Internet. By contrast, only 14.2% of those who rarely play video games and 14.3% of those who never use the console prefer this type of virtual interaction.

Table 2. Relationship between the frequency of video game use and preference for virtual communication.

Frequency of video game use	Always n (%)	Almost always n (%)	Quite often n (%)	Sometimes n (%)	Never n (%)	M	Md	SD
Never	24 (6.1)	32 (8.2)	46 (11.8)	134 (34.3)	155 (39.6)	3.90	4	1.18
Rarely	16 (5.8)	23 (8.4)	38 (13.8)	101 (36.7)	97 (35.3)	3.87	4	1.15
Weekends only	9 (4.7)	22 (11.5)	26 (13.5)	60 (31.3)	75 (39.1)	3.89	4	1.18
Several times a week	19 (10.9)	25 (14.4)	22 (12.6)	55 (31.6)	53 (30.5)	3.56	4	1.35
Every day	21 (30.4)	11 (15.9)	9 (13.0)	16 (23.2)	12 (17.4)	2.81	3	1.52
Total	89 (8.1)	113 (10.3)	141 (12.8)	366 (33.2)	392 (35.6)	—	—	—

Note. Values indicate frequency (n) and percentage (%). M = mean; Md = median; SD = standard deviation. The response variable corresponds to the perceived ease of interacting through the Internet rather than through face-to-face interaction.

Likewise, 23.1% of adolescents who use the video game console every day stop going out with their friends in order to spend more time playing. The same occurs among 8.4% of those who play several times a week, 2.1% of those who play only at weekends, and 1.1% of those who rarely play.

These results indicate the existence of a statistically significant relationship between the frequency of video game use and giving up social outings with friends in order to spend more time playing, with those students who report the highest frequency of use also being those who most neglect their social circle in favour of online gaming ($\chi^2(16) = 108.722$, $p \leq .01$) with a small effect size ($V < .10$).

4. Discussion and Conclusions

The problematic use of online video games is a phenomenon that has gained increasing relevance in recent years, in parallel with the global rise of ICT. Recent literature has highlighted its association with indicators of psychological distress, such as anxiety, depression, insomnia, and stress, as well as with difficulties in interpersonal relationships (Cudo et al., 2019; Kuss & Griffiths, 2012). For these reasons, understanding the mechanisms involved in problematic video game use is of key importance.

The present study sheds light on the understanding of problematic video game use among adolescents, indicating that one in every five young people reports abandoning, interrupting, or neglecting their school obligations in order to spend more time playing video games. These results differ from those reported by García-Oliva et al. (2017), who found that only one in every ten students who plays video games experiences interference in daily life. These findings point to a gradual increase in the interference of ICT in general, and of video game consoles in particular, in adolescents' lives over recent years.

On the other hand, sex appears to be a determining factor. In this regard, the present study found that boys become angrier than girls when they are interrupted while playing, and they are also more likely to interrupt other activities in order to continue using video games. These findings are consistent with those reported by Díaz-López et al. (2020), who also found greater video game consumption among boys than among girls.

With regard to technological stress, the results of the present study show that those adolescents who report indicators of problematic video game console use (such as becoming angry when interrupted, the need to spend increasingly more time playing, or giving up social activities) present higher levels of technological stress. These findings are consistent with previous research identifying an association between problematic video game use and perceived stress (Canale et al., 2019; Pallavicini et al., 2022; Romero et al., 2025).

One possible interpretation of this relationship may be linked to certain characteristics of video games, such as the intensity of stimulation or emotional involvement, especially in competitive or multiplayer settings (Ellithorpe et al., 2022). However, given the cross-sectional nature of the study, these results should be interpreted in terms of association rather than causality. Furthermore, extensive use

may be associated with more severe psychological disorders such as anxiety and depression (Canale et al., 2019).

Likewise, it has been confirmed that a high frequency of video game use is associated with the need to spend increasingly more time playing in order to feel satisfied. This may be related to the fact that individuals can experience a greater sense of belonging to the group within the video game or during gameplay, especially in multiplayer game), which would imply greater perceived social support, as also occurs with the use of social networking sites (Caba-Machado et al., 2022).

In this regard, the findings highlight the individual psychological distress associated with problematic video game use during adolescence and the need to address this issue through primary and secondary prevention strategies, such as parental training or empowerment programmes.

With regard to social skills, the results indicate that a higher frequency of video game use is associated with lower levels of assertiveness, both in online and offline contexts. These findings are consistent with previous studies that have identified relationships between intensive video game use and certain difficulties in social interaction (Sauter et al., 2021; Vallejos & Capa, 2010; Valdéz-Castro et al., 2025). Likewise, it is observed that a relevant proportion of adolescents reduce the time devoted to face-to-face social activities in favour of online gaming, which may be linked to changes in forms of socialisation characteristic of digital environments.

Additionally, it was found that two out of every ten adolescents stop going out with their friends in order to spend more time playing. These results are considerably higher than those reported by García et al. (2014). Likewise, those students who report the highest frequency of video game console use are also those who most neglect their social circle in favour of online gaming. The importance of these findings lies in a broader problem affecting a large proportion of today's society: loneliness, which, as reported in the literature, is associated with problematic video game use (Cudo et al., 2019).

Therefore, it is concluded by highlighting that one out of every five young people acknowledges abandoning, interrupting, or neglecting their school responsibilities in order to spend more time playing video games. The results obtained indicate that problematic video game use is associated with higher levels of technological stress in adolescents, as well as with indicators of interference in academic and social life. Likewise, intensive ICT use is associated with possible difficulties in the development of social skills, revealing a partial shift from face-to-face interactions towards virtual environments. Thus, two out of every ten adolescents have stopped going out with their friends in order to continue playing video games.

In light of these findings, the need to design and implement parental education and training programmes to promote a more adaptive use of video games in particular, and ICT in general, among adolescents becomes evident. This study is not without limitations. In this regard, the data were obtained through adolescents' self-reports; therefore, future research should gather information from other sources, such as families and teachers, which would make it possible to triangulate the information and gain a deeper understanding of the causes of this problem.

As a future line of research, the design and implementation of a parental training programme on the adaptive use of video games during adolescence is proposed, together with the promotion of parental empowerment training programmes and actions.

With this study, which forms part of and is framed within the broader research conducted by Díaz-López (2021), the aim is to deepen our understanding of this issue and to move closer to understanding the consequences of problematic technology use among Generation Z young people, who, immersed in a fully digitalised society, require the use of technology in every aspect of their lives.

5. References

- Arroyo, D. (2019, mayo 26). *La OMS hace oficial la adicción a los videojuegos como trastorno mental*. Meristation. https://as.com/meristation/2019/05/26/noticias/1558879918_863987.html
- Aznar Díaz, I., Kopecký, K., Romero Rodríguez, J. M., Cáceres Reche, M. P., & Trujillo Torres, J. M. (2020). Patologías asociadas al uso problemático de Internet: Una revisión sistemática y metaanálisis en WOS y Scopus. *Investigación Bibliotecológica*, 34(82), 229-253. <https://doi.org/10.22201/iibi.24488321xe.2020.82.58118>
- Caba Machado, V., McIlroy, D., Padilla Adamuz, F. M., Murphy, R., & Palmer-Conn, S. (2022). The associations of use of social network sites with perceived social support and loneliness. *Current Psychology*. <https://doi.org/10.1007/s12144-021-02673-9>
- Canale, N., Marino, C., Griffiths, M. D., Scacchi, L., Monaci, M. G., & Vieno, A. (2019). The association between problematic online gaming and perceived stress: The moderating effect of psychological resilience. *Journal of Behavioral Addictions*, 8(1), 174-180. <https://doi.org/10.1556/2006.8.2019.02>
- Carbonell, X. (2020). El diagnóstico de adicción a videojuegos en el DSM-5 y la CIE-11: Retos y oportunidades para clínicos. *Papeles del Psicólogo*, 41(3), 211-218. <https://doi.org/10.23923/pap.psicol2020.2935>
- Cudo, A., Kopsi, N., & Zabielska-Mendyk, E. (2019). Personal distress as a mediator between self-esteem, self-efficacy, loneliness and problematic video gaming in female and male emerging adult gamers. *PLOS ONE*, 14(12), Article e0226213. <https://doi.org/10.1371/journal.pone.0226213>
- Delgado, S. K. I. (2026). Cuando el juego deja de ser juego: Una revisión sistemática sobre la adicción a los videojuegos en adolescentes. *Revista Tribunal*, 6(14), 362-379.
- Díaz-López, A. (2021). *Uso problemático de las TIC en la adolescencia* [Tesis doctoral, Universidad de Murcia]. Digitum. <https://digitum.um.es/digitum/handle/10201/113683>
- Díaz-López, A., Maquilón-Sánchez, J. J., & Mirete, A. B. (2020). Uso desadaptativo de las TIC en adolescentes: Perfiles, supervisión y estrés tecnológico. *Comunicar*, 64, 29-38. <https://doi.org/10.3916/C64-2020-03>
- Díaz-López, A., Maquilón-Sánchez, J. J., & Mirete, A. B. (2022). Validación de la escala Ud-TIC sobre el uso problemático del móvil y los videojuegos como mediadores de las habilidades sociales y del rendimiento académico. *Revista Española de Pedagogía*, 80(283), 533-558.
- Díaz-Vicario, A., Mercader, C., & Gairín, J. (2019). Uso problemático de las TIC en adolescentes. *Revista Electrónica de Investigación Educativa*, 21, Article e07. <https://doi.org/10.24320/redie.2019.21.e07.1882>
- Ellithorpe, M. E., Meshi, D., & Tham, S. M. (2022). Problematic video gaming is associated with poor sleep quality, diet quality, and personal hygiene. *Psychology*

- of Popular Media.
<https://doi.org/10.1037/ppm0000397>
- García, B., López, M. C., & García, A. (2014). Los riesgos de los adolescentes en Internet: Los menores como actores y víctimas de los peligros de Internet. *Revista Latina de Comunicación Social*, 69, 462-485.
<https://doi.org/10.4185/RLCS-2014-1020>
- García-Oliva, C., Piqueras, J. A., & Marzo, J. C. (2017). Uso problemático de internet, el móvil y los videojuegos en una muestra de adolescentes alicantinos. *Salud y Drogas*, 17(2), 189-200.
<https://doi.org/10.21134/haaj.v17i2.331>
- Gómez-Gonzalvo, F., Devís-Devís, J., & Molina-Alventosa, P. (2020). El tiempo de uso de los videojuegos en el rendimiento académico de los adolescentes. *Comunicar*, 65, 89-99.
<https://doi.org/10.3916/C65-2020-08>
- González-Álvarez, S., Solabarrieta, J., & Ruiz-Narezo, M. (2025). Indicadores de uso abusivo de videojuegos en adolescentes de 12 a 14 años. *Atención Primaria*, 57(10), Article 103255.
<https://doi.org/10.1016/j.aprim.2025.103255>
- Gracia-Granados, B., Quintana-Orts, C., & Rey, L. (2020). Regulación emocional y uso problemático de las redes sociales en adolescentes: El papel de la sintomatología depresiva. *Health and Addictions*, 20(1), 77-86.
- Griffiths, M. D., Kuss, D. J., & Pontes, H. M. (2016). A brief overview of Internet gaming disorder and its treatment. *Australian Clinical Psychologist*, 2(1), Article 20108.
- Instituto Nacional de Estadística. (2021). *Encuesta sobre equipamiento y uso de tecnologías de información y comunicación en los hogares*.
<https://www.ine.es>
- Kuss, D. J., & 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>
- Lloret, D., Morell, R., Marzo, J. C., & Tirado, S. (2017). Validación española de la escala de adicción a videojuegos para adolescentes (GASA). *Atención Primaria*, 50(6), 350-358.
<https://doi.org/10.1016/j.aprim.2017.03.015>
- Molano, J. N. C., & Suárez, W. B. (2022). Los videojuegos y su contribución al desarrollo cognitivo y social. *Revista Academia y Virtualidad*, 15(1), 11-28.
<https://doi.org/10.18359/ravi.4934>
- Montag, C., & Hegelich, S. (2020). Understanding detrimental aspects of social media use: Will the real culprits please stand up? *Frontiers in Sociology*, 5, Article 599270.
<https://doi.org/10.3389/fsoc.2020.599270>
- Montaña Blasco, M., Ollé Castellà, C., & Lavilla Raso, M. (2020). Impacto de la pandemia de COVID-19 en el consumo de medios en España. *Revista Latina de Comunicación Social*, 78, 155-167.
<https://doi.org/10.4185/RLCS-2020-1472>
- Otzen, T., & Manterola, C. (2017). Técnicas de muestreo sobre una población a estudio. *International Journal of Morphology*, 35(1), 227-232. <https://doi.org/10.4067/S0717-95022017000100037>
- Pallavicini, F., Pepe, A., & Mantovani, F. (2022). The effects of playing video games on stress. *Cyberpsychology, Behavior, and Social Networking*.
<https://doi.org/10.1089/cyber.2021.0252>
- Polo, E. A. T., & Vargas, M. D. L. Á. U. (2024). Efectos del uso de videojuegos en adolescentes: Una revisión sistemática. *YACHAQ*, 7(2), 36-49.
https://doi.org/10.46363/yachaq.v7i2_3
- Puerta-Cortés, D. X., & Carbonell, X. (2014). El modelo de los cinco grandes factores de personalidad y el uso problemático de Internet. *Adicciones*, 24(1), 54-61.
<https://doi.org/10.20882/adicciones.26.1>
- Rodríguez-Rodríguez, M., & García-Padilla, F. M. (2021). El uso de videojuegos en adolescentes. *Enfermería Global*, 20(62), 557-591.
<https://doi.org/10.6018/eglobal.438641>
- Romero, M. A. M., De la Hoz Garrido, K. V., & Ramos, R. B. H. (2025). Uso de videojuegos, niveles de estrés y ansiedad en estudiantes de la Universidad Metropolitana. *VISION SY*, 23(2), 95-105.

- Sáez-López, J. M. (2017). *Investigación educativa: Fundamentos teóricos, procesos y elementos prácticos*. UNED.
- Sánchez-Díaz de Mera, D., & Lázaro-Cayuso, P. (2017). La adicción al WhatsApp en adolescentes. *Tendencias Pedagógicas*, 29, 121-134.
- Sánchez-Domínguez, J. P., Telumbre-Terrero, J. Y., & Castillo-Arcos, L. C. (2021). Uso y dependencia a videojuegos en adolescentes. *Health and Addictions*, 21(1).
<https://doi.org/10.21134/haaj.v21i1.558>
- Sauter, M., Braun, T., & Mack, W. (2021). Social context and gaming motives predict mental health. *Cyberpsychology, Behavior, and Social Networking*, 24(2), 94-100.
<https://doi.org/10.1089/cyber.2020.0234>
- Urosa, R. (2015). Jóvenes y generación 2020. *Revista de Estudios de Juventud*, 108, 5-219.
- Valdez-Castro, K., Soncco-Champi, S., Estrada-Araoz, E. G., & Gallegos-Ramos, N. A. (2025). Uso problemático de los videojuegos como predictor del desarrollo de habilidades sociales en estudiantes de educación básica. *Gaceta Médica de Caracas*, 133(3), 803-812.
- Vallejos, M., & Capa, W. (2010). Video juegos: Adicción y factores predictivos. *Avances en Psicología*, 18(1), 103-110.
<https://doi.org/10.33539/avpsicol.2010.n.18.1924>
- Vázquez, C., & Mouján, J. F. (2016). Adolescencia y sociedad: La construcción de identidad en tiempos de inmediatez. *Psocial*, 2(1), 38-55.
- Viñals Blanco, A., & Cuenca Amigo, J. (2016). Ocio entre pares en la era digital. *Revista de Psicología del Deporte*, 25(4), 61-65.