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Engagement Of Kazakhstani Youth In Video Games



Abstract

The widespread use of video games as one of the key forms of leisure underscores the importance of studying their impact on young people, as this phenomenon has a significant effect on their psycho-emotional state, social adaptation, and behavior. This paper examines the engagement of Kazakhstani youth in video games, as well as the relationships and differences between gaming habits, demographic characteristics, forms of addictive behavior, and other behavioral aspects. The study involved 105 people aged 18 to 35 years (including 44 men and 61 women) who completed an online survey. The main hypotheses concerned gender differences in engagement in video games, the influence of religiosity, as well as the relationship between gaming activity and financial expenses, and the perception of the harm of video games. Data analysis was carried out using descriptive statistics, correlation analysis, Mann-Whitney, and Kruskal-Wallis criteria. The results showed that men are more actively engaged in video games, more often participate in online games, and have a positive attitude towards the gaming process. Women use social networks more and demonstrate stress eating. Religious respondents showed less engagement in video games. Differences were identified between groups of respondents based on their level of engagement in video games and their perception of the associated harm. The correlation analysis revealed a relationship between gaming activity, financial costs, and perception of video games. The results can be useful for further research in the field of digital culture and the prevention of addictive behavior. The practical significance of the study lies in the possibility of using the presented results to develop effective programs aimed at minimizing the risk of developing gaming addiction and other related problems among young people..



Keywords: video games, gaming addiction, addictive behavior, youth, online games.

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Introduction

In recent decades, video games have become a widespread form of entertainment, attracting individuals of various ages and genders (Burris & Dow, 2015). Statistics indicate that the number of people playing video games has been growing rapidly: in 2014, there were 1.8 billion users, and six years later, that number had increased to 2 billion (WHO, 2019). This suggests that video games are capable of fulfilling certain human needs.

In Kazakhstan, precise data on the video game market is not available. However, according to *Newzoo's Global Games Market Report* for 2020, the country ranked 44th in the global gaming industry and was among the top five countries in Eastern Europe in terms of revenue. Kazakhstani gamers spent approximately \$183 million. Moreover, according to the Kazakhstan Cybersport Federation, more than 5 million Kazakhstani citizens play computer and mobile games (Turkayev, 2022).

Along with the growing popularity of video games, concerns about their potential negative consequences have also increased (Erevik et al., 2023). Video game addiction, also known as gaming disorder, is characterized by persistent and compulsive engagement in gaming activities, which can lead to significant impairments in various areas of an individual's life, including social, occupational, academic, and psychological functioning. In 2010, the American Psychiatric Association included Internet Gaming Disorder (IGD) in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) as a condition warranting further research (Holden, 2010).

The World Health Organization officially recognized gaming disorder as a mental health condition in its International Classification of Diseases (ICD-11), categorizing it under “Disorders due to addictive behaviors,” thereby emphasizing the need for further research and intervention in this area (WHO, 2019).

However, there is still a noticeable lack of research in Kazakhstani academic literature regarding the prevalence, patterns, and determinants of video game addiction among the country's youth.

This study aims to examine the engagement of Kazakhstani youth in video games and to identify the relationships and differences between gaming habits, demographic characteristics, forms of addictive behavior, and other behavioral aspects. The research addresses various dimensions such as interest in video and online games, time spent playing, genre preferences, and the inclination to make in-game purchases.

The article proceeds with a literature review that explores both the positive effects of video games and the issues related to gaming addiction and addictive behaviors, which in turn form the basis for research hypotheses. The methodology section describes the research tools and methods used, followed by the presentation of results that highlight predictors contributing to the development of gaming addiction among youth, and discusses their

correlations with the likelihood of engaging in addictive behavior. The conclusion summarizes the main findings of the study and highlights their practical implications.

Thus, the study investigates the impact of demographic and psychological factors such as age, gender, anxiety levels, and social isolation on the susceptibility to gaming addiction.

Literature review

Positive effects of video games

The usefulness of video games in enhancing human abilities can be traced back over 30 years, when researchers first employed them to train children in communication and spatial skills (Horn et al., 1991). The broad potential for content customization and interactive features makes video games a unique tool when used for educational purposes. This approach, known as "game-based learning" or "gamification," has been actively explored and applied in various educational contexts, ranging from primary schools to universities (Adžić et al., 2023; Aarseth, 2003; Susi et al., 2007). Game developers can integrate learning content into gameplay and provide immediate rewards when learners complete required tasks. These features, from the perspective of self-determination theory, have been shown to support users' needs for autonomy and competence, promote critical thinking, and ultimately enhance motivation for continued engagement (Iacovides & Mekler, 2019).

Some researchers have found that video games help improve performance in a variety of visual and spatial tasks (Adžić et al., 2023). Positive effects on visuospatial skills have been observed in both correlational and experimental studies (Wolinsky et al., 2013; Tanaka et al., 2010; Beaumont et al., 2021).

Video games may also help individuals cope with stressful life events, such as job loss or bereavement (Massimi et al., 2012; Sun et al., 2008). McGonigal (2011) emphasizes the role of video games as a tool for relaxation and stress reduction. Carter and colleagues (2018) examine the potential of advanced technologies such as virtual reality (VR) and biofeedback interfaces in managing stress through gaming. VR immerses players in a virtual environment where they can interact with their surroundings. Studies suggest that VR can be an effective medium for creating immersive experiences that help reduce stress and anxiety.

Gameplay often involves the simulation of stressful situations, such as solving complex tasks within a limited time frame, which can enhance players' stress responses and their ability to function effectively under pressure (Cheng & Kramer, 2014; Adachi et al., 2016).

In addition, video games have been found to increase users' social activity. This social engagement may involve interactions with characters controlled by other real players or with non-playable characters (NPCs), which are programmed virtual agents

within the game. Laboratory studies have shown that prosocial video games can reduce aggressive thoughts, emotions, and behaviors, while also promoting prosocial thinking, empathy, and a willingness to help others (Burke & Kraut, 2001; Adachi et al., 2015; Adachi et al., 2016; von der Heiden et al., 2019). Several studies have confirmed that the long-term effects of such games include increased cooperation, knowledge sharing, empathy, and helpfulness among adolescents, as well as enhanced prosocial behavior in children (Brezinka, 2008).

Despite the positive influences of video games on users, a substantial body of research addresses the potential risks and negative consequences associated with excessive video game use, which requires a more detailed consideration of the most significant issues.

Negative effects of video games

The growing popularity of video games across various age groups has drawn the attention of researchers to their potential impact on players' psychological well-being. Studies on prolonged engagement with video games have revealed that gaming addiction may be associated with increased levels of depression and anxiety, particularly among adolescents and young adults. It has also been noted that games containing violent and aggressive content may exacerbate these psychological issues (Anderson & Bushman, 2001).

A study conducted in Pakistan investigated the causes of increased aggression and cognitive impairments among university students who play video games. The research involved surveys of 200 gamers and 198 non-gamers from the Islamia University of Bahawalpur. The findings indicated that gamers exhibited significantly higher levels of aggression and cognitive impairments compared to their non-gaming peers (Karim & Chaudhri, 2012).

Research into the behavioral characteristics of adolescents who are enthusiastic about video games revealed instances of physical and verbal aggression, irritability, and a higher incidence of various forms of deviant behavior. These included smoking, rudeness, violations of school rules, and other disruptive behaviors. Notably, full-blown gaming addiction was not found among most adolescents. However, many of them demonstrated elevated levels of aggression and anxiety. Furthermore, adolescents engaged in gaming showed reduced ability to manage emotional states in stressful social situations (Wan et al., 2007; Pantling, 2020).

Social isolation is also a significant psychological consequence of excessive engagement with video games.

Research has shown that prolonged gaming sessions may lead to detachment from the real world and a reduction in social activity. This can negatively impact the development of healthy interpersonal relationships and hinder social adaptation (Wan & Chiou, 2006). A meta-analysis conducted in 2001 revealed that playing violent video

games is not only associated with aggressive behavior and affect but also induces heightened physiological arousal in players (Rosendo-Rios et al., 2022).

In a study by Schmitt and Livingston (2015), the correlation between video game addiction and various aspects of college engagement and academic success was examined among first-year students at a liberal arts college. The results indicated that higher levels of video game addiction were associated with lower expectations regarding academic involvement and lower academic performance, as evidenced by reduced first-year GPA. Surprisingly, higher levels of gaming addiction correlated with fewer reported incidents of drug and alcohol violations on campus.

Based on the analysis of existing literature, it can be assumed that video games may serve as an important risk factor in the development of addictive behaviors among youth, especially under conditions of social isolation and elevated anxiety levels. The main challenge lies in the insufficient understanding of which specific aspects of gaming behaviors, such as game genres or players' personality traits, contribute to the emergence of gaming addiction.

Study materials and methods

Study hypotheses

H₁ Engagement in video games is higher among males than females, as reflected in gaming frequency and the amount of time spent playing.

H₂ More frequent gaming activity is associated with a more positive attitude toward video games and a lower perception of their potential harm.

H₃ Active gamers are more likely to spend money on in-game purchases than those who play less frequently or have never played.

H₄ Religious individuals are less engaged in video gaming.

H₅ There are statistically significant differences in the perception of video game harm between groups with different levels of gaming engagement.

Study participants

The study sample consisted of 105 individuals residing in Kazakhstan, aged between 18 and 35 years, ensuring demographic diversity among young adults. The sample included 44 males and 61 females, with a mean age of 22 years. Participants were recruited from various sources, including university networks, workplaces, and social media platforms, which contributed to the representativeness of different social strata. The sample comprised working individuals, students, as well as those who both study and work. Participants' professional backgrounds included fields such as IT, physical education and sports, marketing, management, social sciences, accounting, auditing, and others (see Table 1).

Table 1
Demographic Characteristics of Study Participants

<i>Variable</i>	<i>Number</i>	<i>Percentage, %</i>
Gender		
Male	44	42
Female	51	58
<i>Social Status</i>		
Students	78	74
Employed	24	23
Both studying and working	3	3
<i>Field of Specialization</i>		
Education	22	21
Natural Sciences	6	6
Social Sciences	47	45
Engineering	15	14
Finance and Economics	20	19

Note: compiled by the authors.

Ethical standards

The study was conducted in accordance with ethical standards. Prior to participation, each respondent was provided with an informed consent form outlining the purpose of the study, the voluntary nature of participation, and assurances of confidentiality. Participants were required to agree to the terms of participation presented at the beginning of the survey in order to proceed with answering the questions.

Data collection

Data collection was carried out using a structured online survey specifically developed for this study. Participants completed a questionnaire that included items addressing various aspects of their demographic characteristics, video gaming habits, and forms of addictive behavior. Data was collected over a two-month period through multiple distribution channels, including universities, social media platforms, and email.

Participants completed the questionnaire at their convenience. The survey consisted of closed-ended questions with predefined response options, as well as several open-ended questions that allowed respondents to express their opinions about video games. The average completion time for the survey was approximately 15 minutes.

Instruments and Measures

The survey instrument included five sections:

1. Demographic information: gender, age, social status (student, employed, unemployed, other), and field of study.

2. Video game engagement and experience: whether participants had ever played video games, devices used for gaming (computer, console, mobile device), gaming frequency over the past year (daily, several times a week, several times a month), average daily gaming time, preferred genres, and participation in online games.

3. Financial aspects: questions about spending on video games, including in-game purchases and the amounts spent.

4. Assessment of addictive behaviors: engagement in video games, smoking, alcohol consumption, social media usage, and emotional eating measured on a scale from 1 to 10.

5. Religiosity.

Data analysis

The statistical software SPSS version 26.0 was used to analyze the collected data.

Results and discussion

Descriptive statistics

The descriptive statistics are based on a sample of 105 participants and include variables such as the mean, standard deviation, median, minimum, maximum, kurtosis, and skewness. The descriptive statistics for the survey items are presented in Table 2.

Table 2

Descriptive statistics of survey items (n = 105)

<i>Survey Item</i>	<i>M</i>	<i>Std.Dev.</i>	<i>Медіана</i>	<i>Min</i>	<i>Max</i>	<i>Kurtosis</i>	<i>Skewness</i>
Have you ever played video games?	2.28	0.66	2.00	1.00	3.00	0.23	-0.73
What devices do you use to play video games?	2.78	2.05	2.00	1.00	8.00	0.24	0.64
How often have you played video games in the past year?	2.00	1.16	2.00	1.00	4.00	0.24	-1.09
How much time do you usually spend on video games?	1.47	0.56	1.00	1.00	3.00	0.24	-0.65
What types of games do you play?	7.34	6.38	6.00	1.00	27.00	0.24	2.11
Do you play online video games?	1.42	0.50	1.00	1.00	2.00	0.24	-1.93
Have you ever spent money on video games or in-game purchases?	1.29	0.45	1.00	1.00	2.00	0.24	-1.10
What is the maximum amount you have spent at one time on in-game purchases?	1.59	0.93	1.00	1.00	5.00	0.24	1.60
What is your attitude toward video games?	3.44	0.85	3.00	1.00	5.00	0.24	-0.10
Do you believe video games can be harmful?	1.29	0.45	1.00	1.00	2.00	0.24	-1.10
Rate your engagement in video games on a scale from 1 to 10.	3.02	3.05	1.00	1.00	10.00	0.24	0.05

Rate the frequency of your smoking (cigarettes, vapes, etc.) on a scale from 1 to 10	4.14	2.84	4.00	1.00	10.00	0.24	-1.10
Rate the frequency of your alcohol consumption on a scale from 1 to 10	2.30	1.74	2.00	1.00	10.00	0.24	2.82
Rate how often you use social media on a scale from 1 to 10	6.97	2.67	7.00	1.00	10.00	0.24	-0.60
Rate how often you eat in response to stress on a scale from 1 to 10	4.71	2.62	5.00	1.00	10.00	0.24	-1.04
Rate your level of religiosity on a scale from 1 to 10	3.90	2.65	3.00	1.00	10.00	0.24	-0.77

Note: M – Mean; Std. Dev. – Standard Deviation

* compiled by the authors.

The results of the Shapiro–Wilk test indicated that the data did not follow a normal distribution. This conclusion is supported by the skewness and kurtosis values presented in the initial descriptive statistics table. Consequently, the use of non-parametric methods of analysis, such as the Mann–Whitney U test and the Kruskal–Wallis test, was considered appropriate.

The descriptive statistics allow for several observations. Specifically, the mean, median, skewness, and kurtosis suggest that most respondents have prior gaming experience; play video games with moderate frequency (less than daily); typically spend 1–2 hours on gaming, though the majority play less; there is considerable variation in genre preferences; offline games are favored; spending on video games is minimal; few respondents are willing to spend significant amounts on in-game purchases; overall attitudes toward video games are positive; respondents generally do not consider video games to be harmful; they demonstrate moderate engagement; high levels of smoking and low levels of alcohol use are recorded; social media usage is notably frequent; many respondents report emotional eating in stressful situations; and the average level of religiosity is moderate, although there is a presence of more religious individuals.

Mann–Whitney U test

The Mann–Whitney U test was used to compare two independent groups — males and females. The results of the pairwise comparison are presented in Table 3.

Table 3*Significant results of survey item comparisons using the Mann–Whitney U test*

Survey Item	Rank Sum (Females, n = 61)	Rank Sum (Males, n = 44)	U-value	Z-score	p-value	U
How often have you played in the past year?	2867	2698	976	-2.37	0.017	0.017
Do you play online video games?	2784	2782	893	-2.91	0.003	0.003
What is your attitude toward video games?	2925	2640	1034	-1.99	0.045	0.045
Rate your engagement in video games on a scale from 1 to 10	2916	2650	1024.5	-2.05	0.039	0.039
Rate the frequency of your social media use on a scale from 1 to 10	3639	1927	936.5	2.63	0.008	0.008
Rate how often you eat in response to stress on a scale from 1 to 10	3667	1899	908.5	2.81	0.004	0.005

The results of the Mann–Whitney U test revealed significant gender differences in several areas related to video gaming behavior, social media use, and stress responses.

Statistical analysis indicates that males play video games significantly more frequently over the course of a year ($p = 0.017$). Additionally, the frequency of participation in online games is significantly higher among males ($p = 0.003$). These findings suggest a greater tendency among men to engage in online formats that require interaction with other players. Males also demonstrate higher levels of engagement in video games ($p = 0.039$) and exhibit a more positive attitude toward video games ($p = 0.045$).

In contrast, when it comes to social media use and stress-related behaviors, the results were reversed. Females report significantly higher levels of social media use compared to males ($p = 0.008$), reflecting gender-based differences in leisure preferences and modes of virtual interaction. Moreover, females are more likely to engage in emotional eating under stress than males ($p = 0.004$), indicating different coping mechanisms between genders.

Correlation analysis

Correlation analysis was conducted using Pearson's correlation coefficient, which measures the degree of linear relationship between pairs of variables (Appendix A).

Negative correlations were observed between gender and the frequency of social media use ($r = -0.234$, $p = 0.016$), participation in online gaming ($r = -0.334$, $p = 0.000$), attitude toward video games ($r = -0.198$, $p = 0.043$), and video game engagement ($r = -0.196$, $p = 0.045$). In contrast, positive correlations were found between gender and both social media use ($r = 0.274$, $p = 0.005$) and eating in response to stress ($r = 0.269$, $p = 0.005$). These associations reinforce earlier findings on gender-based differences in modes of virtual interaction.

A strong positive correlation between social status and age ($r = 0.582, p = 0.000$) suggests that social status tends to increase with age, likely due to career progression. A positive correlation between social status and access to gaming devices ($r = 0.379, p = 0.000$) indicates that individuals with higher status may have access to a greater number of devices. Moreover, a correlation between social status and video game preferences ($r = 0.275, p = 0.005$) implies that individuals with higher status may prefer more complex or expensive games. On the other hand, social status negatively correlates with the frequency of social media use ($r = -0.204, p = 0.036$) and eating in response to stress ($r = -0.310, p = 0.001$), which may indicate the use of alternative stress management strategies among higher-status individuals.

Strong correlations were also observed between prior gaming experience and current gaming activity. For example, the frequency of gaming over the past year ($r = 0.752, p = 0.000$) and time spent on gaming ($r = 0.549, p = 0.000$) show that those who have previously played continue to do so actively. Additionally, a positive correlation was found between time spent gaming and genre preferences ($r = 0.263, p = 0.007$), as well as with online gaming ($r = 0.511, p = 0.000$). Spending on in-game purchases is also correlated with previous gaming experience ($r = 0.398, p = 0.000$), and the amount of money spent shows a correlation with video game engagement ($r = 0.338, p = 0.000$).

A positive correlation was found between attitude toward video games and time spent playing ($r = 0.508, p = 0.000$), as well as between time spent gaming and willingness to spend money on in-game purchases ($r = 0.504, p = 0.000$). These findings suggest that the more time individuals spend playing games, the more engaged they become and the more willing they are to invest financially in the activity. At the same time, perception of harm from video games ($r = 0.302, p = 0.002$) indicates that those who are more active gamers are also aware of the potential negative consequences, even though their overall attitude toward games remains positive.

The correlation between smoking and alcohol consumption ($r = 0.376, p < 0.001$) reflects a predisposition to these behaviors, which may be influenced by both social and individual factors.

A positive correlation between stress-related overeating and social media use ($r = 0.394, p < 0.001$) may be interpreted as a coping strategy mechanism, whereby social media is used for distraction from stress, potentially contributing to emotional eating.

Negative correlations were observed between religiosity and video game engagement ($r = -0.203, p < 0.05$), frequency of gaming over the past year ($r = -0.200, p < 0.05$), spending on video games ($r = -0.328, p < 0.001$), and attitude toward video games ($r = -0.227, p < 0.05$). These correlations highlight the importance of considering religious beliefs and values when studying gaming behavior.

Kruskal–Wallis H Test

The results of the Kruskal–Wallis H test revealed significant differences between the respondent groups. The analysis was based on the distribution of ranks across three groups: individuals who have never played video games (Group 1), those who have played in the past (Group 2), and active players (Group 3) (Table 4).

Table 4

Comparison of the three groups using the Kruskal–Wallis H Test (n = 105)

<i>Variable</i>	<i>Group (1-3)</i>	<i>Sum of Ranks</i>	<i>Mean Rank</i>
Frequency of gaming over the past year	Group 1	926.0	26.5
	Group 2	1255.5	35.87
	Group 3	2850.5	81.37
Time spent playing video games	Group 1	1050.0	30.0
	Group 2	1501.5	42.9
	Group 3	2823.5	71.83
Type of games	Group 1	898.0	25.63
	Group 2	1262.5	49.29
	Group 3	2284.5	65.32
Experience with online games	Group 1	1085.5	31.0
	Group 2	1528.5	45.41
	Group 3	2621.5	68.5
Spending on video games and in-game purchases	Group 1	940.0	38.0
	Group 2	1322.5	47.26
	Group 3	2248.5	64.25
Attitude toward video games	Group 1	850.5	31.92
	Group 2	1468.5	42.73
	Group 3	2515.0	71.5
Perceived harm of video games	Group 1	926.5	38.0
	Group 2	1385.5	50.35
	Group 3	2158.5	60.5
Self-reported gaming engagement (scale 1–10)	Group 1	1103.5	23.54
	Group 2	1327.5	42.51
	Group 3	2515.0	74.15

Note: *p < 0.05

*compiled by the authors

According to the results presented in the table, active players differ significantly from those who have played in the past or never played, across a number of variables related to gaming frequency, time spent on video games, attitudes toward gaming, and willingness to spend money on in-game purchases. These differences are particularly pronounced in self-reported gaming engagement and the perception of video games as a less harmful activity among active players.

Discussion

The aim of the present study was to examine attitudes toward and engagement with video games among Kazakhstani youth, as well as to identify relationships and differences between gaming habits, demographic characteristics, forms of addictive behavior, and other behavioral aspects.

According to the results obtained, males were more engaged in video gaming, including gaming frequency, preference for online games, and in-game spending. This supports Hypothesis H1 and aligns with the findings of previous studies (Adžić et al., 2023; López Fernández et al., 2020). In contrast, females were found to use social media more frequently (Ye et al., 2023; Irawati et al., 2024) and were more likely to engage in stress-related eating behaviors (Fu, 2024; Degroote et al., 2023).

Correlation analysis revealed positive associations between gaming activity, a more favorable attitude toward video games, and reduced perceptions of their harm. This indicates that active players may consider video games as a meaningful aspect of life, a source of entertainment, and a means of self-fulfillment. These findings support Hypothesis H2.

The observed relationship between gaming engagement and willingness to make in-game purchases confirmed Hypothesis H3, suggesting that active players are more inclined to spend money on such purchases. This may reflect their perception of in-game spending as a way to enhance gameplay or achieve specific goals within games.

A negative correlation between religiosity and gaming engagement confirmed Hypothesis H4 (Braun et al., 2016; Buja et al., 2024; Burriss & Dow, 2015; Ghaffari et al., 2024). It is possible that religious beliefs and values promote more limited participation in entertainment-oriented leisure activities such as video gaming.

A significant association between smoking and alcohol use was identified (Green et al., 2022; Tsygankova et al., 2022; Wycoff et al., 2022). Interestingly, this behavioral synergy did not show significant correlations with video game engagement, suggesting that these forms of addictive behavior may operate independently of gaming experience and virtual engagement. This finding highlights the need for further investigation into this dimension.

A positive correlation between stress-induced overeating and social media use underscores the importance of examining the relationship between digital habits and stress management strategies, as well as their potential impact on physical and mental health.

Finally, differences in harm perception across groups with varying levels of gaming engagement confirmed Hypothesis H5. Individuals with lower engagement tended to be more critical of the potential harm of video games, possibly due to lower personal interest or limited gaming experience.

Limitations and directions for future research

The present study has several limitations that require further investigation. Since the research was conducted exclusively in Kazakhstan, the generalizability of the findings is limited. Therefore, future studies should include international samples to enable cross-cultural comparisons of attitudes toward video games and behavioral habits. The relatively small sample size may also reduce the overall representativeness of the results. Expanding the sample would help to better capture the characteristics of different social groups.

An interesting direction for future research could involve examining the relationship between gaming behavior and professional activity, educational level, and family dynamics. It would also be valuable to investigate the influence of cultural norms and values on gaming behavior in order to identify both universal patterns and culture-specific traits. Moreover, it is essential to explore effective behavioral management strategies and develop evidence-based recommendations for the prevention of gaming addiction among young people.

Conclusion

Despite existing limitations and the need for further research, the findings of this study contribute to a better understanding of the nature of video game engagement among Kazakhstani youth. The study expands the existing body of knowledge by highlighting the importance of considering demographic, cultural, and individual factors when analyzing gaming behavior. The results may be valuable for the development of preventive measures and strategies aimed at promoting healthy habits and minimizing the risks associated with gaming and other forms of addictive behavior.

References

- Aarseth, E. (2003). Playing research: Methodological approaches to game analysis. *In DiGRA 2003 Level Up Conference. Utrecht: University of Utrecht.*
- Adachi, P. J., Hodson, G., Willoughby, T., & Zanette, S. (2015). Brothers and sisters in arms: Intergroup cooperation in a violent shooter game can reduce intergroup bias. *Psychology of Violence, 5*, 455–462. <https://doi.org/10.1037/a0037407>
- Adachi, P. J., Hodson, G., Willoughby, T., Blank, C., & Ha, A. (2016). From outgroups to allied forces: Effect of intergroup cooperation in violent and nonviolent video games on boosting favorable outgroup attitudes. *Journal of Experimental Psychology: General, 145*, 259–265. <https://doi.org/10.1037/xge0000145>
- Adžić, Slobodan & Savic-Tot, Tijana & Savić, Verica & P, Marija & Tot, Vilmos. (2023). *Student Achievement in Relation to Time Spent Studying and Playing Video Games: A Gender Perspective. 12.* 832-839. 10.18421/TEM122-28.

- Anderson, C. A., & Bushman, B. J. (2001). Effects of violent video games on aggressive behavior, aggressive cognition, aggressive affect, physiological arousal, and prosocial behavior: A meta-analytic review of the scientific literature. *Psychological Science, 12*, 353-359.
- Beaumont, R., Walker, H., Weiss, J., & Sofronoff, K. (2021). Randomized controlled trial of a video gaming-based social skills program for children on the autism spectrum. *Journal of Autism and Developmental Disorders, 51*(10), 3637–3650. <https://doi.org/10.1007/s10803-020-04801-z>
- Braun, B., Kornhuber, J., Lenz, B. et al. Gaming and Religion: The Impact of Spirituality and Denomination. *J Relig Health 55*, 1464–1471 (2016). <https://doi.org/10.1007/s10943-015-0152-0>
- Brezinka, V. (2008). Treasure hunt - a serious game to support psychotherapeutic treatment of children. *Studies in Health Technology and Informatics, 136*, 71. https://doi.org/10.1007/978-3-540-76805-0_30
- Buja, Alessandra & Montecchio, Laura & Dossi, Francesca. (2024). Association Between Religiosity and Spirituality and Cocaine Use: A Systematic Review. *Journal of Religion and Health. 63*. 3532-3579. [10.1007/s10943-024-02069-6](https://doi.org/10.1007/s10943-024-02069-6).
- Burke, M., & Kraut, R. (2013). Using Facebook after losing a job: Differential benefits of strong and weak ties. *Proceedings of the 2013 Conference on Computer Supported Cooperative Work*, 1419–1430. <https://doi.org/10.1145/2441776.2441936>
- Burris, C. T., & Dow, T. (2015). Lost in the Myst?: Narrative video gaming decreases self-reported propensity for spiritual/religious experience. *International Journal for the Psychology of Religion, 25*(1), 18–28. <https://doi.org/10.1080/10508619.2014.884393>
- Carter, J. A., et al. (2018). The Impact of Virtual Reality on Chronic Pain. *PLoS ONE, 13*(9), e0200987.
- Cheng, M., & Kramer, K. (2014). Gaming Well: Links Between Videogames and Flourishing Mental Health. *Frontiers in Psychology, 5*, 260.
- Degroote, Cathy & Renner, Britta & Wickl, Julia & Leven, Anika & Wirtz, Petra. (2023). Eating After Acute Psychosocial Stress in Healthy Men and Women: Gender Differences and Endocrine Mechanisms. *The Journal of Clinical Endocrinology & Metabolism. Volume 109, Issue 2, February 2024, Pages e543–e551*, <https://doi.org/10.1210/clinem/dgad578>

- Erevik, E. K., Landrø, H., Mattson, Å. L., Kristensen, J. H., Kaur, P., & Pallesen, S. (2022). Problem gaming and suicidality: A systematic literature review. *Addictive behaviors reports, 15*, 100419.
- Fu, Jingxuan. (2024). The Role of Stress and Relevant Social Factors in Food Addiction. *Communications in Humanities Research. 46*. None-None. 10.54254/2753-7064/46/20242332.
- Ghaffari, A. S., Iqbal, K., Bibi, S., Khalid, A., & Nadeem, B. (2024). Cognitive Failure as a Consequence of Video Games, Developing Risk of Disruptive Behaviors among Students. *Al-Qanṭara. Retrieved from <https://alqantarajournal.com/index.php/Journal/article/view/463>*
- Green, ReJoyce & Montoya, Amanda & Ray, Lara. (2022). The Relationship Between Drinking and Smoking in a Clinical Trial for Smoking Cessation and Drinking Reduction. *Experimental and Clinical Psychopharmacology. Vol 30(6), Dec 2022, 873-883* 10.1037/pha0000536.
- Holden, C. (2010). Psychiatry. Behavioral addictions debut in proposed DSM-V. *Science (New York, NY), 327(5968)*, 935. <https://doi.org/10.1126/science.327.5968.935>
- World Health Organization. (2019). *ICD-11 for mortality and morbidity statistics. Retrieved on 18 September 2021 from <https://icd.who.int/browse/11/l-m/en>*
- Horn, E., Jones, H. A., & Hamlett, C. (1991). An investigation of the feasibility of a video game system for developing scanning and selection skills. *Journal of the Association for Persons with Severe Handicaps, 16(2)*, 108–115. <https://doi.org/10.1177/154079699101600205>
- Iacovides, I., & Mekler, E. D. (2019). The role of gaming during difficult life experiences. *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*, 1–12. <https://doi.org/10.1145/3290605.3300453>
- Irawati, Irawati & Hasgimianti, Hasgimianti & Raja, Rahima & Fitra, Herlinda. (2024). Women on social media: A representation of self-actualization and social embarrassment. *Gender Equality: International Journal of Child and Gender Studies. 10. 41. 10.22373/equality.v10i1.20720.*
- Karim, R., & Chaudhri, P. (2012). Behavioral addictions: An overview. *Journal of Psychoactive Drugs, 44(1)*, 5–17. <https://doi.org/10.1080/02791072.2012.662859>
- López Fernández, Francisco & Mezquita, Laura & Griffiths, Mark & Ortet-Fabregat, Generós & Ibáñez, Manuel. (2020). El papel de la personalidad en el juego

- problemático y en las preferencias de géneros de videojuegos en adolescentes. *Adicciones*. 10.20882/adicciones.1370.
- Massimi, M., Dimond, J. P., & Le Dantec, C. A. (2012). Finding a new normal: The role of technology in life disruptions. *Proceedings of the ACM 2012 Conference on Computer Supported Cooperative Work*, 719–728. <https://doi.org/10.1145/2145204.2145314>
- McGonigal, J. (2011). *Reality Is Broken: Why Games Make Us Better and How They Can Change the World*. Penguin Books.
- Pantling, A. (2020). Gaming usage up 75 percent amid coronavirus outbreak. Verizon Report. Retrieved on 28 September 2021 from <https://www.hollywoodreporter.com/news/gaming-usage-up-75-percent-coronavirus-outbreak-verizon-reports-1285140>
- Rosendo-Rios, V., Trott, S., & Shukla, P. (2022). Systematic literature review online gaming addiction among children and young adults: A framework and research agenda. *Addictive Behaviors*, 129, 107238.
- Schmitt, Z. L., & Livingston, M. G. (2015). Video game addiction and college performance among males: Results from a one-year longitudinal study. *Cyberpsychology, Behavior, and Social Networking*, 18(1), 25-29. <https://doi.org/10.1089/cyber.2014.0403>
- Sun, D. L., Ma, N., Bao, M., Chen, X. C., & Zhang, D. R. (2008). Computer games: A double-edged sword? *Cyberpsychology & Behavior*, 11(5), 545–548.
- Susi, T., Johannesson, M., & Backlund, P. (2007). Serious Games: An overview. Available online at: <https://www.diva-portal.org/smash/get/diva2:2416/FULLTEXT01.pdf> (Accessed May 22, 2023)
- Tanaka, J. W., Wolf, J. M., Klaiman, C., Koenig, K., Cockburn, J., Herlihy, L., et al. (2010). Using computerized games to teach face recognition skills to children with autism spectrum disorder: The let's face it! program. *Journal of Child Psychology and Psychiatry*, 51(8), 944–952. <https://doi.org/10.1111/j.1469-7610.2010.02258>
- Tsygankova, Daria & Bazdyrev, Evgeny & Nakhratova, O.V. & Agienko, A.S. & Indukaeva, E. & Artamonova, G.V. & Barbarash, O.L.. (2022). Combined consumption of alcohol and tobacco and their relationship with risk factors for cardiovascular diseases. *Social Aspects of Population Health*. 68. 15. 10.21045/2071-5021-2022-68-1-15.

- von der Heiden, J. M., Braun, B., Müller, K. W., & Egloff, B. (2019). The association between video gaming and psychological functioning. *Frontiers in Psychology, 10*, 1731.
<https://doi.org/10.3389/fpsyg.2019.01731>
- Wan Rozali, W. A., Hamid, X. H. A., & Sabri, M. I. M. (2007). Video games: Issues and problems. *Proceedings of the 5th International Conference on Information and Communications Technology*, 217-222.
- Wan, C. S., & Chiou, W. B. (2006). Why are adolescents addicted to online gaming? An interview study in Taiwan. *Cyberpsychology & Behavior, 9*(6), 762–766.
- Wolinsky, F. D., Vander Weg, M. W., Howren, M. B., Jones, M. P., & Dotson, M. M. (2013). A randomized controlled trial of cognitive training using a visual speed of processing intervention in middle aged and older adults. *PLoS ONE, 8*(5), 1-11.
- World Health Organization. (2019). ICD-11 for mortality and morbidity statistics. Retrieved on 18 September 2021 from <https://icd.who.int/browse11/l-m/en>
- Wycoff, A. M., Motschman, C. A., Griffin, S. A., Helle, A. C., Piasecki, T. M., & Trull, T. J. (2022). Simultaneous use of alcohol and cigarettes in a mixed psychiatric sample: Daily-life associations with smoking motives, craving, stimulation, sedation, and affect. *Psychology of Addictive Behaviors, 36*(8), 942–954.
<https://doi.org/10.1037/adb0000790>
- Ye, L., Chen, Y., Cai, Y., Kao, Y. W., Wang, Y., Chen, M., ... Qin, L. (2023). Gender Differences in the Nonspecific and Health-Specific Use of Social Media Before and During the COVID-19 Pandemic: Trend Analysis Using HINTS 2017-2020 Data. *Journal of Health Communication, 28*(4), 231–240.
<https://doi.org/10.1080/10810730.2023.2193151>
- Turkaev, A. (2022, Noyabr' 17). Istorii | *Gazeta Kursiv №45. Kuda dvizhetsya industriya videoigr v Kazahstane. Gazeta Kursiv. (In Russian).*

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Appendix A

Results of the correlation analysis (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Gender	1.0																			
2. Age		1.0																		
3. Social status		.58 2** *	1.0																	
4. Specialization		.26 3**		1.0																
5. Have you ever played video games?					1.0															
6. На каких устройствах Вы играете в видеоигры?			.37 9** *			1.0														
7. How often have you played video games in the past year?	- .234 **				.75 2** *		1.0													
8. How much time do you usually spend on video games?					.54 9** *		.477 ***	1.0												
9. What types of games do you play?			.27 5**		.26 3**	.42 1** *	.193 *		1.0											
10. Do you play online video games?	- .334 ***				.51 1** *		.501 ***	.50 4** *		1.0										
11. Have you ever spent money on video games or in-game purchases?					.39 8** *		.456 ***	.41 9** *	.19 8*	.31 7** *	1.0									
12. What is the maximum amount you have spent at one time on in-game purchases?					.33 8** *		.366 ***	.32 6** *		.21 8*	.675 ***	1.0								
13. What is your attitude toward video games?	- .198 *				.50 8** *		.504 ***	.39 5** *	.24 4*	.35 7** *	.368 ***	.367 ***	1.0							
14. Do you believe video games can be harmful?					.30 2** *		.200 *	.34 3** *	.21 4*				.343 ***	1.0						