MOTIVATION FACTORS IN VIDEO GAMES FOR PREDICTING LIFE SATISFACTION IN A PREADOLESCENT RURAL POPULATION

MILIVOJE ĆOSIĆ *

MIROLJUB IVANOVIĆ **

UDK:
316.77: 004.5 -053.6
316.334.55:004.5-053.6

Izvorni znanstveni članak
Original scientific paper
DOI 10.47960/2831-0322.2025.1-2.29.49

Abstract

The aim of this cross-sectional online study was to test the role of motivation factors for playing online video games in predicting the relative contribution of variance in the construct of life satisfaction in preadolescents. The Pertinent sample included (N = 423) children in rural areas of the Republic of Serbia (M age = 10.56, SD = 1.10). The following original measuring instruments were applied: Motivation For Massive Multiplayer Online Role-Playing Game Questionnaire (MMORPG), Satisfaction with Life Scale (SWLS), and Video game genre. The extracted latent dimensions suggest that the 10-factor structure of motivation for playing online video games is differentiated, with certain factors being more relevant than others for interpreting motivation for playing. The multiple regression analysis explained 25% of the variance of the criterion variable of life satisfaction. In the prediction of the dependent variable of life satisfaction based on a model of 10 motivation factors – the factors advancement (β = -0.52, $p \leq 0.01$) and escaping reality (β = -0.48, $p \leq 0.01$) showed statistical significance. This suggests that they have a significant function in predicting the perception of life satisfaction among students living in rural areas.

Keywords: motivation, video game genre, online gaming, preadolescents, rural population.

* Milivoje Ćosić, PhD, University of Bijeljina, Faculty of Agriculture, Republika Srpska;
micko.cosic@gmail.com

** Miroljub Ivanović, PhD, Serbian Academy of Innovation Sciences, Belgrade, Republic of Serbia,
miroljub.ivanovic@gmail.com

Introduction

At the beginning of the 20th century, children and preadolescents spent their free time playing in nature. Yet, with the development of modern electronic technologies and the creation of an environment in which there are fewer and fewer children playgrounds for leisure activities, they have moved to a virtual environment, where online video games supported by audiovisual technology are becoming the most commonly used entertainment medium. The concept refers to a background story that, according to certain rules, relates to the plot of a fictional, non-productive and voluntary entertainment video game, character or event (Utomo, 2025). As electronic devices have become more accessible to the wider public, virtual games – whether played on a computer, game console, or mobile phone – have also become more accessible, with around 3.5 billion people worldwide playing them in 2023 (Nash & Brady, 2022). The population of the Earth is expected to reach 9.3 billion in 2050, which means that the population is expected to increase by 1.33 times.

The aforementioned authors list various categories of video games: action, action-adventure, adventure, role-playing games, simulations, strategy games, sports games, puzzle games, and idle games. In the virtual stage domain, i.e. in the temporary social community formed by the players, discourses of different virtual roles are encountered, which are both retold and contribute to the construction and transformation of the entered identities, as the players maintain the accepted diversities from the virtual world even when they stop playing digitally, and in this way become characters shaped by the narrative (Yi et al., 2025).

The authors have established a negative correlation between gaming and pro-social behavior and empathy, risky determinants of video game addiction, and negative consequences of MMORPG (Massive Multiplayer Online RolePlaying Game) games in those who play for a large number of hours every day (Razum & Glavak-Tkalić, 2025). Research findings (Cabellos et al., 2021) indicate that males, singles, younger players, and those with obsessive-compulsive disorders, depression, and lower levels of anxiety manifest a tendency toward addictive video game playing. Preadolescents with video game addiction symptoms showed a lower level of satisfaction with real life than adolescents without such symptoms, i.e. they were more satisfied with their virtual life compared to their objective life, with the consequences being reversed for those who were not addicted to gaming (Rahimi et al. 2023). On the other hand, the results of the study (Razum and Huić, 2023) draw attention to the fact that problematic gaming is manifested in children who play video games, where the negative implications were perceived by a minimal proportion of those who recovered after such unpleasant experiences. Players of MMORPG games are generally not addicted to video games, they claim (Vandewalle et al., 2022). Those who attend parties in bars or clubs choose games instead of socializing, so they are more likely to socialize online instead of in

person. Also, researchers (Jun et al., 2025) believe that moderate use of digital technology by preadolescents is not negatively correlated with mental health. An empirical study (Rutledge et al., 2025) found a low intensity but significant positive interaction between enjoyment of digital content and personal well-being.

The relationship between playing video games and mental health is complex. The obtained differential results are probably a consequence of the motivation for playing games being in close analogy with the individual well-being of the player, where intrinsically motivated playing has positive, while extrinsically motivated playing has negative implications on the level of individual well-being (Razum et al., 2025). However, the authors (Gao et al., 2025) found that the satisfaction of basic psychological needs through playing video games is partially interdependent with subjective well-being. Other researchers have found that characteristic motivation patterns are correlated with Internet video games. Such networking with other players presupposes co-dependence in the virtual domain. The original motivation model (Yee, 2006) was oriented exclusively to video games of the MMORPG genre. It hypothesized 10 lower-order factors: progression, game mechanics, competition, socialization, relationships, teamwork, discovery, role-playing, character editing, and escaping reality, which are condensed into three basic factors: achievement, socialization, and immersion (Kahila et al., 2025). Researchers (Haltigan et al., 2023) identified three components: achieving game results, socialization through pleasant communication with other players, and coping with reality through different video game genres.

The aim of this research is to examine the relevant factors of motivation for playing online video games in the prediction of the variance of life satisfaction – a component of the perceived subjective well-being of players in preadolescence. In accordance with the results of previous research and the aim of this study, designed as a cross-sectional study, two alternative *hypotheses* were tested: It is expected to define a ten-dimensional model of the construct of motivation factors in preadolescents (H_1) and it is expected that motivation factors for playing video games are statistically significant in predicting the level of life satisfaction in online video game players (H_2).

Methods

Based on a brief overview of empirical studies, it is noted that entertaining video games are correlated with both negative and positive consequences of life satisfaction, i.e. psychological well-being, and that additional empirical studies to test their relationships are still lacking.

Participants and procedure

The pertinent *online* sample (N = 423) consisted of preadolescents living in rural areas. The average age of participants across the entire territory of the Republic of Serbia was 10.56 ± 1.10 years. The link to the survey measuring instruments was distributed via e-mail addresses available from personal contacts and social

networks. After providing informed consent, participants were asked to forward the invitation to participate, along with the digitally designed instruments, to other people via electronic means using the platform (*Google Forms*). The online completed battery of measuring instruments could not be correlated with the identity of the participants, because instead of their names and e-mail addresses, the participants entered their passwords using all available characters. At the beginning of the research, the participants were given brief explanations in electronic form on how to respond, and they could quit at any time without any consequences. The survey lasted approximately 20 minutes. The research was conducted in October 2025 and was approved by the Ethics Committee of the Serbian Academy of Innovation Sciences in Belgrade, as well as the parents of the respondents.

Motivation Questionnaire for Playing Massive Multiplayer Online Games (MMORPG)

The MMORPG (Williams et al., 2008) includes 21 items that measure the preference of motives for playing online video games. Since this measuring instrument is used for the first time in the Serbian population, it was back-translated from English to Serbian and adapted to preserve the original content. Participants were asked to answer each question using a five-point Likert-type scale, with a higher score indicating a greater salience of certain motives. The overall internal reliability of the scale, i.e. *Cronbach's alpha*, is $\alpha = 0.80$.

Satisfaction with Life Scale (SWLS)

The Satisfaction with Life Scale (Pavot & Diener, 1993) contains five items that assess the level of satisfaction with life. An example of a statement: "*My life is very close to what I consider ideal.*" Participants responded on a seven-point scale (1= *strongly disagree* to 7= *strongly agree*). The final score is the sum of the ratings on individual statements, where a higher value indicates greater satisfaction with life. The internal reliability of the Cronbach's α coefficient is ($\alpha = 0.79$).

Video game genre

The participants were given 11 distributions of online video games, where they had to choose for each one whether they play it or not. The genres of these games were taken from well-known websites for computer and information technology (Bug. hr1). In order to more fully describe the different forms of games and to make it easier to evaluate which type of game they play most often, the most popular video game genres were added: "shooters" (First Person Shooter, FPS), action games, strategy games, role-playing games (RPG), massive multiplayer online games (MMO), adventure, platform, simulation and sports games. In addition, the following genres were added: Multiplayer Online Battle Arena (MOBA) and Survival games. For each selected genre, respondents were asked to write the name of a video game of the genre they play. This was used to control how participants categorized video games. Subsequently, all participants were tested for classifying a particular video game into the selected genre. If participants disagreed,

the game was added to the genre that the majority of other players had chosen for the same game. Given the relatively large number of participants who listed a fun video game that fit the MMORPG genre, these 12 categories were also formed during data processing. In addition, participants were offered the option *Other* in which players were asked to list an example of a specific game.

Video game playing time

During the survey, participants were asked to estimate the average number of hours they spent playing online video games over a seven-day period.

Statistical data processing methods

Before conducting multivariate analysis, the normality of the distributions of all manifest variables was checked. The reliability of the results was determined by Chrombach's α coefficient of internal coexistence. The normality of the distribution of variables was tested by the coefficient of skewness and kurtosis. The statistical procedures of descriptive statistics, exploratory factor analysis (EFA) and multiple linear regression analysis were used. Conclusions were drawn at the level of statistical error ($p \leq 0.05$, $p \leq 0.05$). The data were analyzed in the computer program SPSS, version 26, using the IBM statistical software package.

Results

Descriptive data

Table 1 calculates the frequencies and percentages in the sense of "out of a hundred" of participants who play a particular genre of online video game.

Table 1. Frequencies and percentages of participants in games of certain genres of video games

Video game genre	*Frequency*	*%*
"First person shooter" (FPS)	82	19.38
Role-playing games (RPG)	71	16.78
Massive multiplayer online game (MMO)	59	13.94
Strategy games	60	14.18
Multiplayer Online Battle Arena (MOBA)	54	12.76
MMOROG	25	5.91
Action games	19	4.49
Sports games	20	4.72
Adventures	12	3.08
Survival games	9	2.83
Simulations	6	1.32
Platform	4	0.94
Other	2	0.47

Inspection of the table cells reveals that participants frequently play video games of different genres online: the mean value of the genres they enjoy is 3.95 (SD = 2.14). They play on average 17.88 hours per week (SD = 14.03).

Using the multivariate statistical method of confirmatory factor analysis, the principal components method and the given Promax factor rotation on the online video game motivation questionnaire and life satisfaction scale in Table 2, the following factors were extracted: progression (F_1), game mechanics (F_2), competition (F_3), communication (F_4), relationship (F_5), teamwork (F_6), discovery (F_7), role-playing (F_8), character editing (F_9), escaping reality, (F_{10}), and life satisfaction (F_{11}). An identical configuration of the latent structures of online video game motivation and life satisfaction has also been defined in research (Johannes et al., 2021; Razum & Huić, 2023).

Testing the structural model revealed the following indices: $\chi 2/df$ (130, N = 487) = 218.56, $p \leq .000$; CFI = .964; TLI = .915; RMSEA = .039, 90% CI [.026, .052]; SRMR = .035, which shows a satisfactory fit to the data (Jovičić & Mitrović-Dragutinović, 2018).

Table 2. Scope of rotated Promax main components and utilities

Factor	*Item*	*Standard factor saturation*	h^2
Progression	Fastest character level up	0.60	0.40
	Obtaining rare items that most players will never have	0.78	0.82
	Becoming powerful	0.67	0.38
Game mechanics	Optimizing the character for the role	0.80	0.53
	Using a character builder or template to plan character development from the lowest level	0.29	0.75
	Knowing as much as possible about the mechanics and rules of the game	0.50	0.68
Competition	Competing against other players	0.78	0.39
Communication	Meeting other players	0.60	0.47
	Chatting with other players	0.90	0.52
Relationship	Having important conversations with other players	0.77	0.78
	Share your personal problems with your *online* friends	0.62	0.65
Teamwork	Playing in a group	0.66	0.82
	Enjoying working with others in a group	0.76	0.43
Discovery	Enjoying exploring the world for the sake of exploring	0.75	0.64
	Enjoying searching for computer-controlled characters or a location that most people don't know about	0.70	0.56
Role-playing	Making up stories and personal histories for your characters	0.73	0.37
	Playing the role of your character	0.64	0.45
Character editing	Matching character's clothing/armor in color and style	0.70	0.83
	Character appearance different from other characters' appearance	0.83	0.59
Escaping reality	Escaping the real world	0.76	0.77
	Playing to avoid thinking about your real-life problems and worries	0.75	0.61
	My life is very close to what I consider ideal.	0.77	0.40
	My living conditions are extraordinary.	0.60	0.54
	I am satisfied with my life.	0.90	0.36

Life satisfaction	I have achieved important things in my life so far.	0.71	0.78
	If I were to live my life over again, I wouldn't change almost anything.	0.59	0.62

Annotation. h^2 = Communality (sum of squared factor loadings or percentage of variance on the extracted factor); All factor loadings are statistically significant ($p \leq 0.01$).

On the basis of the extracted structure of the rotated Promah majors, the hypothesis about the ten-dimensional model of the construct of motivation factors among preadolescents was confirmed (H_1).

The basic descriptive statistical parameters of motivation for playing online video games and life satisfaction are shown in Table 3.

Table 3. Basic descriptive parameters of the examined items

Items	*M*	*SD*	*Sk*	*Ku*
Progression Fastest character level up	3.25	1.60	0.17	0.92
Obtaining rare items that most players will never have	3.28	1.17	0.92	0.10
Becoming powerful	3.66	1.01	0.25	0.87
Game mechanics Optimizing the character for the role	4.01	0.87	0.84	0.20
Using a character builder or template to plan character development from the lowest level	3.33	1.16	0.36	0.77
Knowing as much as possible about the mechanics and rules of the game	3.57	3.53	0.77	0.34
Competition Competing against other players	3.50	1.08	0.45	0.65
Communication Meeting other players	3,38	1.10	0.59	0.36
Chatting with other players	1.22	1.05	0.62	0.59
Relationship Having important conversations with other players	2.83	0.88	0.10	0.05
Share your personal problems with your *online* friends	2.24	1.20	0.93	0.93
Teamwork Playing in a group	3.57	1.22	0.84	0.12
Enjoying working with others in a group	3.90			0.86
Discovery Enjoying exploring the world for the sake of exploring	3.86	0.86	0.36	0.32
Enjoying searching for computer-controlled characters or a location that most people don't know about	3.74	1.12	0.52	0.43
Role-playing Making up stories and personal histories for your characters	1.85	1.03	0.44	0.67
Playing the role of your character	2.18	1.24	0.67	0.70
Character editing Matching character's clothing/armor in color and style	2.15	1.29		
Character appearance different from other characters' appearance	2.90	1.30	0.15	0.45
Escaping reality Escaping the real world	2.72	1.38	0.28	0.15
Playing to avoid thinking about your real-life problems and worries	2.93	1.25	0.35	0.66
Life satisfaction My life is very close to what I consider ideal.	3.82	1.66	0.49	0.78
My living conditions are extraordinary.	4.58	1.70	0.80	0.90
I am satisfied with my life.	4.84	1.72	0.12	0.84
I have achieved important things in my life so far.	4.53	1.80	0.23	0.56
If I were to live my life over again, I wouldn't change almost anything.	3.60	1.87	0.36	0.42

Legend. M – arithmetic mean; *SD* – standard deviation; *Sk* = skewness; *Ku* = kurtosis; The value of the standard error (*SE*) of indicator *Sk* is 0.13, and of *Ku* is 0.22.

Based on empirically calculated arithmetic means, it is observed that participants have the maximum average for the item (Life satisfaction M = 4.84), and the minimum for the item (Chatting with other players M = 1.22), while the maximum variability of results was achieved for the item (Knowing as much as possible about the mechanics and rules of the game SD = 3.53), and the minimum for the item (Becoming powerful SD = 1.03). The obtained coefficients of skewness and kurtosis are not outside the standard range of ±2, which is a prerequisite for conducting subsequent statistical multivariate analyses (Kline, 2023).

In order to examine the contribution of motivation factors for playing video games in explaining the variance of the criterion variable, life satisfaction in preadolescence, multiple linear regression analysis was conducted (Table 4).

Table 4. Prediction of life satisfaction factors based on motivation factors

Predictors	β	SE
Progression	-0.52**	0.05
Game mechanics	0.15*	0.02
Competition	-0.30 **	0.03
Communication	0.38**	0.09
Relationship	0.19*	0.06
Teamwork	0.16*	0.08
Discovery	0.28**	0.03
Role-playing	0.14*	0.04
Character editing	-0.48**	0.01
Escaping reality	0.62	
R	0.28	
R^2	0.25	

Legend. β = Standardized regression partial coefficient Beta; *R* = coefficient of multiple correlation, R^2 = coefficient of multiple determination; SE = The standard error of estimate of the regression parameter β; ** $p \leq 0.01$.* $p \leq 0.05$.

Inspecting the cells of the regression matrix, it is observed that the analyzed factors of motivation for playing video games explained a total of 25% of the average square deviation from the arithmetic mean – the variance of the life satisfaction criterion. The extracted factors *progression* ($\beta = -0.52$, $p \leq 0.01$) and *escaping reality* ($\beta = -0.48$, $p \leq 0.01$) had the highest statistically significant values of standardized regression coefficients. This suggests that players who had a more prominent motivational factor (progression) during the fun game, as well as those who perceived the factor (escaping reality) more intensely, manifested lower levels of satisfaction with their lives. However, multiple regression analysis, despite a significant probability level, did not explain 75% of the variability in life satisfaction. Therefore, it is recommended for future research with a longitudinal design to examine some other predictor variables in the preadolescent population.

The obtained results of the multiple linear regression analysis confirmed the tested hypothesis and it is expected that motivation factors for playing video games are statistically significant in predicting the level of life satisfaction in online video game players (H_2).

Discussion

Given that the motivation to play and life satisfaction are increasingly researched in the world, the aim of this cross-sectional study was to test the role of the motivation factor for playing video games in predicting the variability of the dependent variable life satisfaction in online video game players. The pertinent online sample included participants from rural areas of the Republic of Serbia, with an age range of 10 to 11 years.

Studies of online video game players are mainly based on male participants (Amal, et al., 2025; Pan et al., 2025). It is possible that female video game players participate less in psychological research because, compared to men, they are perceived to be "serious" gamers to a lesser extent, and instead of perceiving gaming as a daily hobby of great importance, they perceive it as a second-rate activity. However, in the United States, an approximate number of male and female gamers has been observed (Saffari et al., 2025), where female gamers are recognized as "core gamers" in whom video games are an important part of life, in which they invest a lot of free time, and who enjoy playing with others.

The preadolescents tested in this study played for an average of 2 hours and 30 minutes each day, which is consistent with previous research (Iskandar & Kamila, 2024; Liu et al., 2025). It is possible that some players spend more time playing because they are more intensely motivated by goals that require longer-term play to achieve, and future empirical studies may further test this hypothesis. Realistically, more time is probably needed to realize goals that are interdependent with the factor of advancement or the achievement of power than with socialization with other players, since in online video games interaction with other players is usually present from the beginning of the video game. Since different motives have differential cohesion with subjective well-being, it is likely that examining them as time-directed and as psychological health status could predict different results. This is especially important because the general conclusion formed by the health public is that longer gaming is correlated with undesirable implications such as video game addiction, so it is important to correct these attitudes if they are not exact, they emphasize (Jun et al., 2025).

Exploratory factor analysis – using the principal components method on the Motivation Questionnaire for Playing Massive Multiplayer Online Games, 10 factors were extracted, interpreted as: progression, game mechanics, competition, communication, relationship, teamwork, discovery, role-playing, character editing, and escaping reality. The multiple regression analysis explained 25% of the variance in life satisfaction among online video game players. In the prediction of the

criterion variable of life satisfaction based on the 10-factor model of motivation structure – the factors progression and escaping reality showed statistical significance. A lower level of perceived life satisfaction was demonstrated by players who play to bring their character to a high level and achieve power, along with collecting original items and pieces of equipment, as well as players who play to escape reality. The obtained factor results suggest that the latent factor structure of motivation for playing online video games is differentiated, with some latent dimensions being more relevant for interpreting motivation for playing than others.

In this study, the following motivation factors for playing video games were extracted from preadolescent gamers: progression, game mechanics, competition, communication, relationship, teamwork, discovery, role-playing, character editing, and escaping reality, which are consistent with the factor structure (Williams et al., 2008). The tested model suggests a good fit to the data (overfitting), which implies flexibility in the application of these 10 motivation factors outside the genre of multiplayer online games. Also, in accordance with the results of the study (Fuster et al., 2012), it was found that players are encouraged by various motivation factors, which are generally interpreted as the realization of goals in the game (progression, game mechanics and competition), correlation with other players (communication, relationship, teamwork), exploration of the virtual world and its content (discovery, role-playing and character editing), and especially the escaping reality is emphasized. However, a smaller number of isolated motivational factors influence the subjective well-being of online video game players. The factors progression and escaping reality significantly negatively predict the level of life satisfaction construct. Players who are more motivated by the factor of progression during the game, as well as those who are more intensely motivated to play by escaping the realities of life, manifested a lower level of the dependent variable – life satisfaction. The motivation factor for advancement includes the elements of quickly leveling up a character and acquiring rare items so that an imaginary character in clothing or armor becomes powerful. Character level in video games is a weaker indicator of efficiency since in most entertainment games, players, with effort and time, achieve the maximum character level. However, rare items or pieces of equipment seldom appear in an online video game, suggesting that the player has invested a lot of time and effort, so they are a kind of status symbol and indicator of achievement. Therefore, power in video games is correlated with the possession of a significant amount of resources or, most often, strength in combat. Being powerful presupposes that what other individuals cannot do. At the same time, power is realized through time, effort, and the development of gaming skills, which draws attention to the fact that the player has experience and is effective in that video game. In other words, players who are dissatisfied with their lives are expected to look for ways to compensate for their perceived failure. Perhaps they therefore dedicate themselves to gaming in order to manifest their abilities in a virtual environment and to have their success identified. In this context, it is important to additionally report why acquiring rare items and achieving power showed a slightly higher degree of

saturation with the progression factor compared to quickly raising the character's level.

The relevance of the motivating factor of escaping reality in predicting life satisfaction is not unexpected. It is assumed that individuals who are less satisfied with life will try to distance themselves from the factor of escaping reality. They achieve this through immersion in unreal worlds and the perception of potential characters, especially if they complement in video games what they assume to be their limitations in reality. These findings are consistent with the authors' (Kalınkara & Talan, 2025) statement that children with symptoms of addictive gaming are less satisfied with their lives than those who are not addicted to playing virtual games. Additionally, addicted gamers are less satisfied with their real lives than with those in virtual life, while the opposite is true for non-addicted gamers. Since escape from reality has been identified as a relevant factor, it is concluded that video games generally provide a distraction from everyday life, especially if the player is dissatisfied with their everyday life.

The remaining eight extracted motivation factors in this study are not statistically significant in predicting players' life satisfaction, probably because they are in significant interaction with the factors of progression and escaping reality. For example, the factor of game mechanics is strongly interconnected with the factor of advancement. Perhaps knowledge of the rules of the game is essential for efficiency in achieving goals in a video game, so the game mechanics factor does not directly explain the player's life satisfaction, but rather does so through the progression factor. At the same time, it is possible that because the model was applied to players of games of different genres, and not only to players of the original MMORPG genre (Yee, 2007), some isolated factors do not have statistical relevance. For example: discovery, role-playing and character editing, which are characteristic of the genres of online video games RPG, MMO and MMORPG, since the elements of these games allow for creative imagination of the story and appearance of the character. However, the separate factors of communication, relationships and team are not emphasized because these latent socialization dimensions are satisfied by players in reality. Given that players use games of different genres, it is likely that their motivation for social life has a wider range than staying in potential worlds such as the MMORPG genre for players (Amal et al., 2025).

Previous empirical studies on the positive and negative implications of playing video games have given inconsistent findings. Differences in gaming time between dependent and independent gamers and correlations between gaming time and other problematic behaviors, such as aggression, have been identified in research (Khalid et al., 2025). On the other hand, the authors (Jun et al., 2025) did not identify a correlation between playing video games and subjective well-being. The discrepancy in negative consequences identified in previous studies is likely explained by the differentiation between mental health status or psychological well-being. Mental health status is defined by two correlated components: positive mental health, i.e. subjective well-being and life satisfaction, and mental disorders, i.e. the

manifestation or non-manifestation of mental disorders (Fahrudin et al., 2024). Previous research on the interdependence of mental health problems and video game addiction has not sufficiently been focused on the positive mental health of gamers. The results of this research suggest that certain motivation factors interact more intensely with life satisfaction than other factors, so it is possible that introducing factors of motivation for gaming would allow for a more complete examination of the relationship between playing fun video games and mental health status. For example, it can be expected that online video games due to motivational factors, such as escaping reality, have moderating effects between playing time and negative implications, and that playing due to motivational factors (socialization) is a moderator between playing time and positive consequences of playing.

Also, in studies of motivation for playing video games, age has been minimally examined as a possible determinant of certain motivational factors. Future studies should test whether players differ in the genre of video games they choose based on their age, with the assumption that adult players are more motivated by relaxation than preadolescents and less motivated by motivational factors (competition or advancement). The explanation for such a hypothesis is their need for efficiency, which they satisfy in real life at their daily workplace or family life, while they use video games for relaxation after work and other obligations.

Different video game genres vary in terms of the player's goals and the forms of communication with the player's environment. Therefore, genre choice can be positively and negatively correlated with different motives for playing. Given that video games emphasize different elements, the following dilemmas arise: 1) do players who play for achievement prefer genres in which their success is realistically scored, e.g., shooters, and 2) do players with a more salient motivation factor, e.g., character customization, tend to prefer video games in which they can optimize the appearance and behavior of their character in color and style, as they can in games of the role-playing genre. Additionally, playing video games with multiple genres simultaneously complicates the findings of studies that test a single genre or specific video game, and explain their findings only in that discourse. It is assumed that such players also play other games, so the fact that the researcher approached the participants through a particular game should not be used to strictly classify players according to genre or to generalize about players and the distribution of specific forms of game. If certain motivational factors generate the use of games of differentiated genres, it is likely that players play games of multiple characteristic game forms at the same time in order to respond to all their motives. Therefore, it is interesting to examine differences in motivational patterns in players who prefer only one genre of online video games compared to those who play multiple genres simultaneously, with the possible moderating effect of motives for playing video games.

Conclusion

In this cross-sectional study on a preadolescent rural population, the Cronbach's alpha coefficient values for the applied questionnaire (MMORPG) and scale (SWLS) are satisfactory, which shows that the measuring instruments are adequate for research in the Serbian-speaking area. A ten-dimensional model of extracted motivation factors (progression, game mechanics, competition, communication, relationship, teamwork, discovery, role-playing, character editing, and escaping reality) allows for the identification of inconsistent results regarding the effects on the subjective perception of well-being of video game players, as well as for testing the negative and positive effects of playing online video games.

The conducted multiple regression analysis determined that the motivation for playing entertaining video games explains more than ¼ of the variability of the players' life satisfaction criteria, with a lower level of perceived life satisfaction being shown by players who entertain themselves to bring their character (armor) to a high level in color and style, with the distribution of unique items and pieces of equipment to achieve success, as well as players who entertain themselves to escape reality. In the prediction of dimensions of the life satisfaction construct based on a model of 10 motivation factors – factors progression and escaping reality manifested statistical significance, suggesting that they have a relevant role in predicting life satisfaction in pre-adolescents from rural areas. The findings of empirical research allow for the development of interventions aimed at shaping motivational factors to improve life satisfaction in preadolescents between the ages of 10 and 11.

References

- Amal, M., Oublkhir, S., & Ziani, A. (2025). Video Game Addiction and Aggression in Schools: A Study of Moroccan Adolescents' Behavioral Patterns. *Arab Journal of Psychology, 9*(4), 89–99. https://doi.org/10.57642/AJOPSY943
- Cabellos, Sánchez, D. L., & Pozo, J. I. (2021). Do future teachers believe that video games help learning? *Technology, Knowledge and Learning*, 26(4), 1–19. https://doi.org/10.1007/s10758-021-09586-3
- Fahrudin, A., Albert, W. K. G., Esterilita, M., Rochman, U. H., Utami, N. N., Rauf, S. H. A., … Wardani, L. M. I. (2024). Impact of Climate Change on Mental Health Among Vulnerable Groups: A Systematic Literature Review. *Journal of Lifestyle and SDGs Review*, *5*(1), 1–25. https://doi.org/10.47172/2965-730X.SDGsReview.v5.n01.pe02671
- Fuster, H., Oberst, U., Griffiths, M., Carbonell, X., Chamarro, A. & Talarn, A. (2012). Psychological motivation in online role-playing games: A study of Spanish World of Warcraft players. *Anales de Psicología, 28*(1), 274–280. https://www.redalyc.org/articulo.oa?id=16723161029
- Gao, Y., Xiaochen Wang, X., & Reynolds, B. L. (2025). The Mediating Roles of Resilience and Flow in Linking Basic Psychological Needs to Tertiary EFL

Learners' Engagement in the Informal Digital Learning of English: A Mixed-Methods Study. *Journal* of Behavioral *Science, 15*(1), 85–95. https://doi.org/10.3390/bs15010085

- Giardina, A., Schimmenti, A., Starcevic, V., King, D. L., Di Blasi, M., & Billieux, J. (2024). Problematic gaming, social withdrawal, and escapism: The Compensatory-Dissociative Online Gaming (C-DOG) model. *Computers in Human Behavior*, *155*,1–10.. https://doi.org/10.1016/j.chb.2024.108187
- Haltigan, J. D., Pringsheim, T. M., & Rajkumar, G. (2023). Social media as an incubator of personality and behavioral psychopathology: Symptom and disorder authenticity or psychosomatic social contagion? *Comprehensive Psychiatry*, *121*,1–9. https://doi.org/10.1016/j.comppsych.2022.152362
- Iskandar, M., & Kamila, S. H. (2024). The Relationship Between the Duration of Device Use and the Cognitive Development of 6 Year Old Children at Sukaraya 04 State Elementary School in 2024. *Journal of Educational Innovation and Public Health*, *3*(1), 26–35. https://doi.org/10.55606/innovation.v3i1.3356
- Kahila, J., Valtonen, T., López-Pernas, S., Saqr, M., Vartiainen, H., Kahila, S., & Tedre, M. (2025). A Typology of Metagamers: Identifying Player Types Based on Beyond the Game Activities. *Sage Journals, 20*(1), 38-–58. https://doi.org/10.1177/15554120231187758
- Kalınkara, Y., & Talan, T. (2025). Psychological Balances in the Digital World: Dynamic Relationships Among Social Media Addiction, Depression, Anxiety, Academic Self-Efficacy, General Belongingness, and Life Satisfaction. *The Journal of Genetic Psychology, 186*(2), 85–113. https://doi.org/10.1080/00221325.2024.2400342
- Khalid, L., Javed, A., & Javed, M. (2025). Effects of video gaming on sleep quality, social inhibition and mental health among young adults. (2025). *The Research of Medical Science Review*, *3*(1), 560-569. https://www.thermsr.com/index.php/Journal/article/view/410
- Kline, R. B. (2023). *Principles and practice of structural equation modeling*. New York: Guilford publications.
- Johannes, N., Vuorre, M. & Przybylski, A. K. (2021). Video game play is positively correlated with well-being. *Royal Society Open Science, 8*, 1–14. https://doi.org/10.1098/rsos.202049
- Jun, G., Xu, J., Alivi, M. A., Zhewen, F., Dharejo, N., & Brony, M. (2025). Impacts of digital media on children's well-being: A bibliometric analysis. *Online Journal of Communication and Media Technologies, 15*(1), e202501. https://doi.org/10.30935/ojcmt/15696
- Monley, C. M., Liese, B. S., & Oberleitner, L. M. (2024). Gamers' and non-gamers' perspectives on the development of problematic video game

play. *Current Psychology*, *43*(1), 552–561. https://doi.org/10.1007/s12144-023-04278-w

- Nash, B. L., & Brady, R. B. (2022). Video games in the secondary English language arts classroom: A state-of-the-art review of the literature. *Reading Research Quarterly*, *57*(3), 957–981. https://doi.org/10.1002/rrq.454
- Pan, J., Guo, J., Wu, J. & Zhao, X. (2025). The Influence of Negative Emotions on Mobile Phone Addiction Among Chinese College Students: The Mediating Role of Negative Coping Styles and the Moderating Role of Gender. *Psychology Research and Behavior Management, 18*, 3–13. https://doi.org/1021477PRBMS497255
- Pavot, W., & Diener, E. (1993). Review of the satisfaction with life scale. *Psychological Assessment, 5*(2), 164–172. https://doi.org/10.1037/1040-3590.5.2.164
- Rahimi, S., Walker, J. T., Lin-Lipsmeyer, L., & Shin, J. (2023). Toward defining and assessing creativity in sandbox games. *Creativity Research Journal*, 1–19. https://doi.org/10.1080/10400419.2022.2156477
- Razum, J., & Glavak-Tkalić, R. (2025). Prevalence and impact of Internet Gaming Disorder: A population-based study. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, *19*(1), 1–10. https://doi.org/10.5817/CP2025-1-1
- Razum, J. & Huić, A. (2023). Understanding highly engaged adolescent gamers: Integration of gaming into daily life and motivation to play video games. *Behaviour and Information Technology*, 1–23. https://doi.org/10.1080/0144929X.2023.2254856
- Rutledge, S. A., Bunn, S., Paul, M., Dennen, V., & Park-Gaghan, T. (2025). Exploring teen well-being and social media use during the pandemic summer of 2020. *International Journal of Adolescence and Youth, 30*(1), 1–10. https://doi.org/10.1080/02673843.2024.2447464
- Saffari, M., Chi-Hsien, H., Po-Ching, H., Yun-Hsuan, C., Jung-Sheng C., & Wai -Chuen, P. (2025). Mediating roles of weight stigma and physical activity avoidance in the associations between severity of gaming disorder and levels of physical activity among young adults. *Journal of Behavioral Addictions, 13*, 1–16. https://doi.org/10.1556/2006.2024.00083
- Utomo, P. R. (2025). Player Immersion Through Aesthetic Elements of Video Games:a Case Study in "A Space for the Unbound. *KnE Social Sciences*, 158–167. https://doi.org/10.18502/kss.v10i3.17910
- Vandewalle A., Daneels R., Simons E., & Malliet S. (2022). Enjoying my time in the animus: A quantitative survey on perceived realism and enjoyment of historical video games. *Games and Culture*, 18(5), 643–663. https://doi.org/10.1177/15554120221115404

- Yee, N. (2006). The demographics, motivations and derived experiences of users of massively-multiuser online graphical environments. *PRESENCE: Teleoperators and Virtual Environments, 15*, 309–329. https://doi.org/10.1162/pres.15.3.309
- Yee, N. (2007). Motivations of play in online games. *Cyberpsychology and Behavior, 9*, 772– 775. https://doi.org/10.1089/cpb.2006.9.772
- Yi, N., Liu, C., Tuah, N. M., Ying, D., & Yi, C. (2025). Conceptualizing the 'All You Can Eat 'game to promote healthy eating habits among young children. *Bulletin of Electrical Engineering and Informatics, 14*(2), 1507–1517. https://doi.org/ 10.11591/ /eei. v14i2.8711
- Yusifova, A., Basti B., & Sanubar Aslanova, S (2025). Evaluation of Phytopathogenic Fungi According to the Degree of Danger. *Advanced Studies in Biology, 17*(1), 27 - 36 https://doi.org/10.12988/asb.2025.91987
- Williams, D., Yee, N., & Caplan, S. E. (2008). Who plays, how much, and why? Debunking the stereotypical gamer profile. *Journal of Computer-Mediated Communication, 13*(4), 993–1018. https://doi.org/10.1111/j.1083-6101.2008.00428.x

ČIMBENICI MOTIVACIJE U VIDEOIGRAMA ZA PREDVIĐANJE ZADOVOLJSTVA ŽIVOTOM KOD PREDADOLESCENTSKE RURALNE POPULACIJE

Sažetak

Cilj ovoga transverzalnoga *online* istraživanja bio je ispitati ulogu čimbenika motivacije za igranje mrežnih videoigara u predviđanju relativnog doprinosa varijance u konstruktu zadovoljstva životom kod predadolescenata. Relevantni uzorak obuhvatio je (N = 423) djecu u ruralnim područjima Republike Srbije (AS godina = 10.56, SD = 1.10). Primijenjeni su sljedeći originalni mjerni instrumenti: Upitnik motivacije za igranje mrežnih videoigara (MMORPG), Ljestvica zadovoljstva životom (SWLS) i Žanr videoigara. Izdvojene latentne dimenzije upućuju na to da je struktura deset čimbenika motivacije za igranje mrežnih videoigara diferencirana, pri čemu su određeni čimbenici relevantniji od drugih za tumačenje motivacije za igranje. Provedenom višestrukom regresijskom analizom objašnjeno je 25 % varijance kriterijske varijable zadovoljstva životom. U predviđanju zavisne varijable zadovoljstva životom na temelju modela od 10 čimbenika motivacije – čimbenici napredovanje ($\beta = -0.52$, $p \leq 0.01$) i bijeg od stvarnosti ($\beta = -0.48$, $p \leq 0.01$) pokazali su statističku značajnost. To upućuje na to da oni imaju značajnu funkciju u predviđanju percepcije zadovoljstva životom kod učenika koji žive u ruralnim područjima.

Ključne riječi: motivacija, žanr video-igara, mrežno igranje, predadolescenti, ruralna populacija.