MCDSARE: 2023
International Multidisciplinary Scientific Conference on the Dialogue between Sciences & Arts, Religion & Education

THE INFLUENCE OF VIDEO GAMES ON THE TEENAGERS' SCHOOL PERFORMANCE

Adina NICHITA[1], Dumitru ENACHE[2], Cristina Veronica ANDREESCU[3], Ana RADU[4], Bianca-Valeria MIHAILOVICI[5],

[1]Teacher, Pucioasa Technological High School, "Marin Grigore Năstase" Technological High School, Tărtășești, [2]PhD in Systems Engineering, University of Oil and Gas, Ploiești, [3]Lecturer, PhD, University of Medicine and Pharmacy "Carol Davila", Bucharest, [4]MSc, National University of Music Bucharest, [5]Teacher, Pucioasa Technological High School, ROMANIA

[1]nichitaadina79@gmail.com,[2]ing.dumitru.enache@gmail.com[3]cristina.andreescu@umfcd.ro, [4]ana.radu32@gmail.com, [5]biancamihailovici@yahoo.ro

Abstract

Videogames have been a means of leisure since their beginnings, especially among young people. Their development was achieved with the evolution of technology and market requirements, which are classified into several categories depending on the theme of the games. The article presents the main categories of games and their descriptions in short paragraphs. For an activity that involves users investing time and resources, several advantages and disadvantages of video games are presented to expose details about the use of video games by teenagers. The collection of statistical data and their presentation were based on a survey that was used as a tool a questionnaire administered to teenagers. The purpose of the questionnaire was to identify the dominant categories of games played by students, the place and time allocated to those games, the reasons why those games are played, and the correlation between video games and students' school performance.

Keywords: types of games video games; teenagers' school performance; applied questionnaire;

1. INTRODUCTION

Since their beginnings, video games have been adopted by people as an effective way to relax, differing from each other by the platform on which they are played - console systems, PCs, tablets, mobile devices, or custom devices for one or more types of games. A video must have an attractive interface as an interactive virtual environment for players, but also it has to ensure possibilities for players "to struggle" with at least each other. (Fabricatore, 2000)

Corresponding Author: Adina NICHITA

From the *Gameplay* point of view, videogames are divided into several categories, Gameplay being considered a definition for the theme of the game, the level of user interaction in the game with the virtual environment, but also the rules proposed by the game (Lee, et all, 2014):

a) *Action* - the games are focused on the player; the objectives of the game are centered on him/her being required for most of the game his attention and synchronization with the virtual environment. Also, the results he has in the game depend strictly on his reaction time to virtual events;

b) *Adventure/Action* - involves the introduction of a virtual character (character) who is guided by the player through various 2D virtual environments so the action has a linear sequence, or 3D virtual environments where the player has freedom of movement in the virtual universe. The evolution in the games is organized in levels, and players have to perform obstacle avoidance moves to collect various rewards.

c) *Driving/Racing* - car-themed games.

d) *Shooter* - as the name suggests, the main actions of the game are shootings, grenade explosions etc. Thus, through a 3D virtual environment, several game maps are designed, and the main objective of the game is to shoot the enemy team.

e) *Fighting* - designing a virtual world with themes based on physical sports, such as ring or arena fights.

f) *Puzzle* - games that have as their theme the recognition of objects, maps, or different shapes by combining fragments of virtual images until solving.

g) *Strategy* - games that are based on the player's ability to build strategies and make decisions in the virtual environment

h) *Sport* - games that propose simulated virtual models of real-life sports such as football, fishing etc.

i) *Simulation* - a category of games that requires the creation of a virtual world by transforming a real environment into a virtual one, based on real life, for example, car simulators.

j) *RPG* - a category that implements the advancement in the game through an avatar, which is subject to transformations and the use of magical components.

From the point of view of getting videogames, they are divided into:

Free games. Those categories include games that do not require the payment of an actual amount of money to purchase the game, they can be downloaded from various online stores or gaming platforms.

Paid games. Those are games that are obtained by payment of an actual amount of money and then are installed on devices. These are available through online gaming platforms, and players have the opportunity to create a user profile in their personal data and the game library they have is stored.

The main advantages of videogames are:

Training the developing physical and mental skills. Studies have shown that people who play video games every day develop their mental and visual abilities by being more operative in changing tasks in everyday life and also in performing tasks that involve recognizing objects differentiated by shape, color etc. (Green & Bavelier, 2003).

Use as an educational tool in teaching knowledge. Today's education is constantly changing, and teaching staff use new techniques for transmitting knowledge so that students can memorize information in a friendly way. According to Salguero (2009), students can be motivated to learn through the fun offered by various video games.

Promotes teamwork through communication and collaboration. Most games, especially those on consoles or PCs are played mostly by team building, thus allowing students to communicate and collaborate in the game - according to Reyes-Hernandez (2014), this benefit must be exploited by parents to improve their family relationships.

Means of leisure. For people with leisure time, such as students, they are a suitable way to avoid boredom or stress. Because video games have different environments, realities, or virtual dimensions, they are an effective way to entertain.

The main disadvantages of videogames are:

They create addiction. The investment of long-time emotions and material resources can create a sense of belonging to that game and there is a risk of addiction to it.

They increase the player's showing a note of aggression. Videogames are games with different themes of activity, from car racing to exploration or military strategy games, they show a note of aggression in the virtual environment.

They can have negative effects on socialization. Spending time in a virtual environment that does not involve socializing, but going through the objectives of the game, can have unpleasant consequences, as well as like lack of time to communicate with colleagues, friends, or even family.

It is costly. The problem of paying for a game or item within it arises when game users choose to use an uninspired amount of money by investing it in the game.

Negative effects on physical health. Spending time until late hours and its frequency can lead to unpleasant physical effects and may induce fatigue, and irritability.

2. RESEARCH METHODOLOGY

A questionnaire-based survey targeted a sample of 50 adolescents, boys and girls aged between 14 and 18. The questionnaire was administered to adolescents from different high schools in Dâmbovița County, Romania, the purpose of the questionnaire being to identify the extent to which those videogames are played by adolescents, the places and frequency of the videogames being played, the time that students dedicate to those games concerning the length of study time, as well as the opinion of adolescents on how their school performance is, or is not improved.

3. RESULTS AND DISCUSSION

The question "*Do you play videogames?*" has the role of identifying the percentage of sample teenagers who play videogames. A percentage of 88% answered "Yes", and 12% answered "No", which represents in fact, a majority of people who play video games (figure 1).
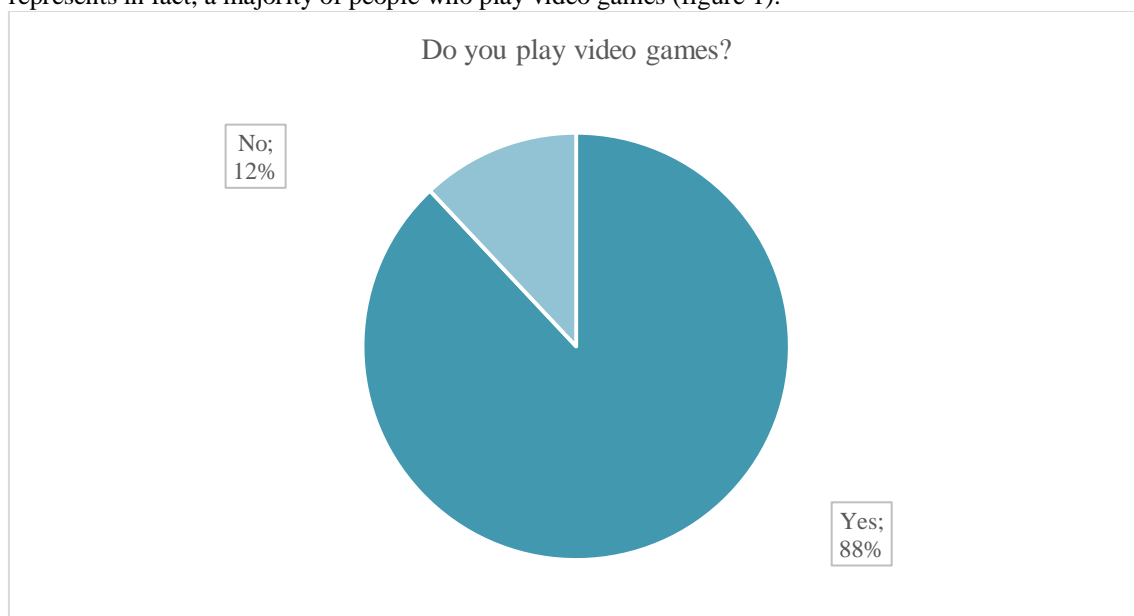

Fig. 1. Percentage of questioned teenagers who play or do not video games

The question "*What category do those videogames belong to?*" identifies the dominant category of games in the sample of students, so we see that 64% is associated with "Mobile", which shows the dominant device that students play. 20% are represented by "PC/Console", and 16% answered with the option "No game" (figure 2).

The question "*How often do you play those games?*" has the role of determining the degree of periodicity that students have in playing videogames, so the answer with the highest percentage, namely 62% is set for a game frequency "Daily", 16% of students answered for the option "Weekly", 6% noted the "Monthly" option and the remaining 16% mentioned the "I do not play" option (figure 3).

The question "*Where do you play these games?*" has the role of identifying the place where students play videogames, and the answer "Home" was the most used answer by students with a percentage of 74%, followed by "School" with a percentage of 14%, 6% "In the other places than those mentioned above", and the remaining 6% answered with the option "I do not play" (figure 4).

The question "*What is the reason you play those games?*" aims to identify the reasons or arguments for which students spend their time playing video games. A percentage of 16% chose the option "Development of creativity", 38% of students chose the option "Fun" which indicates a category of students who find a form of entertainment in those games, 20% of them responded with the option "Free time due to lack of significant concern", and 26% of them chose the option "I do not play" (figure 5).
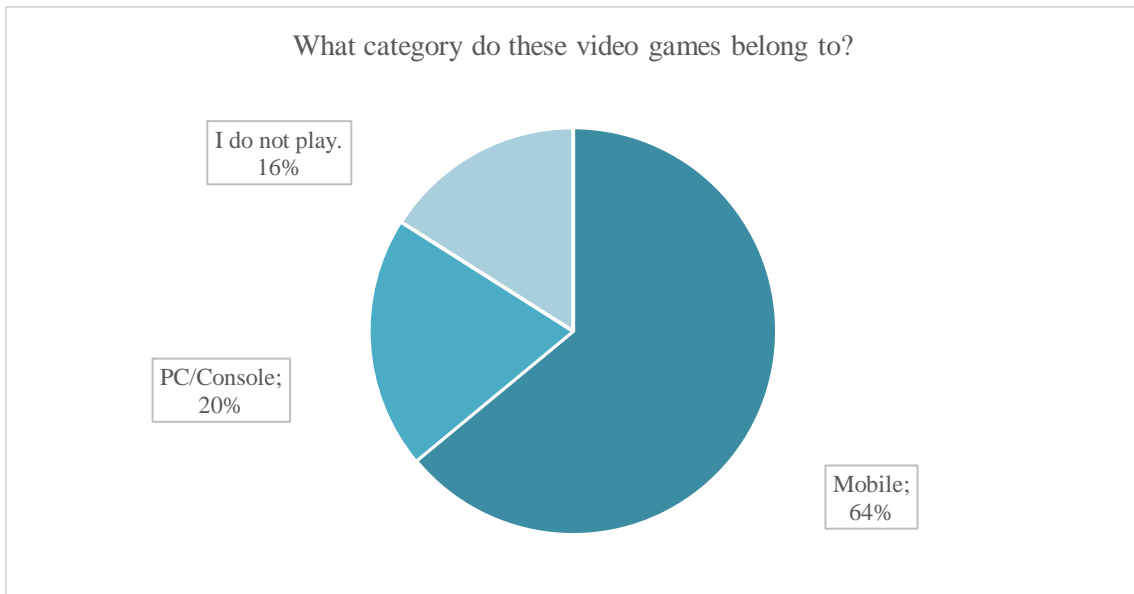

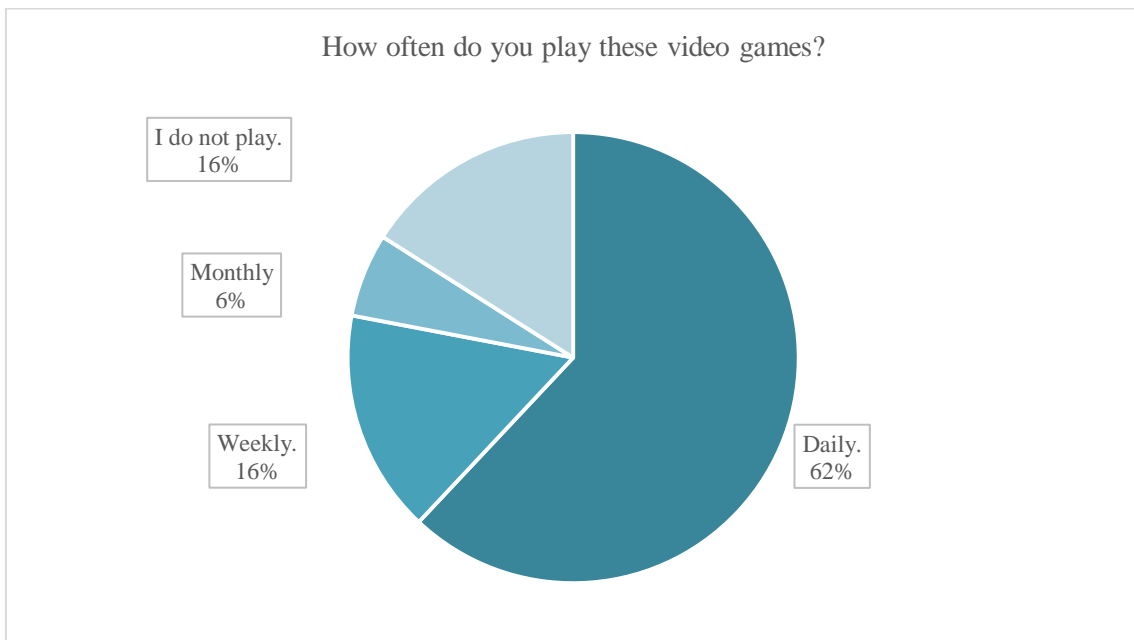**Fig. 2. Percentage of questioned teenagers related to the devices used for playing video games**

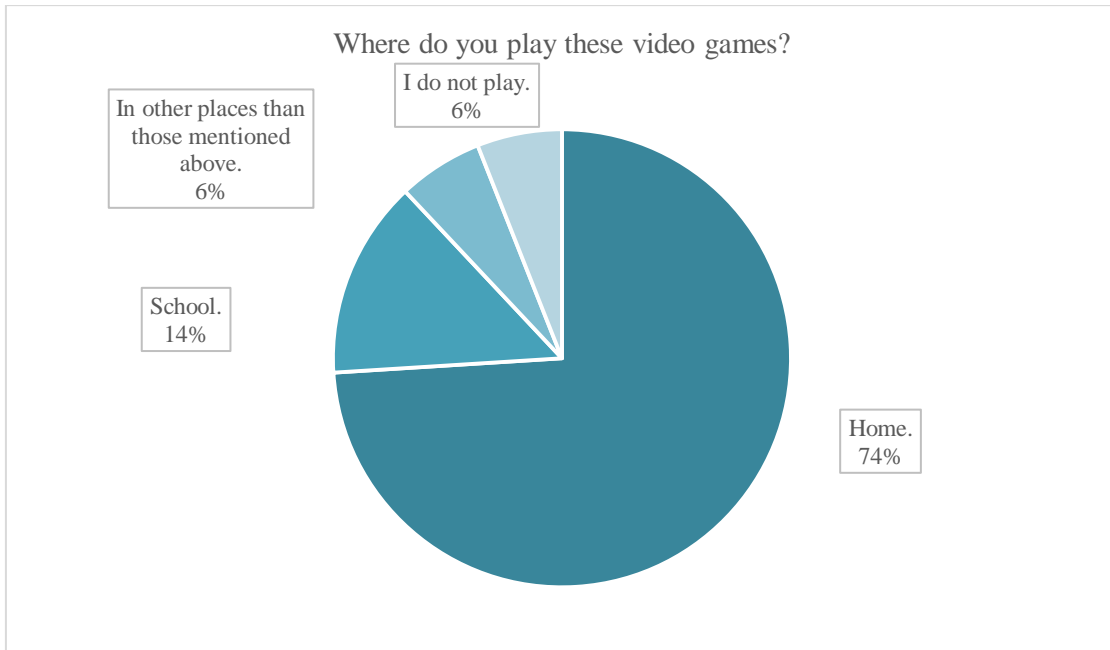**Fig. 3. Percentage of questioned teenagers related to how often they play video games**

Where do you play these video games?

- In other places than those mentioned above. 6%
- I do not play. 6%
- School. 14%
- Home. 74%

Fig. 4. Percentage of questioned teenagers related to the places they play video games

What is the reason you play these games?

- I do not play; 26%
- Developing creativity; 16%
- Free time due to lack of significant concern; 20%
- Entertainment; 38%
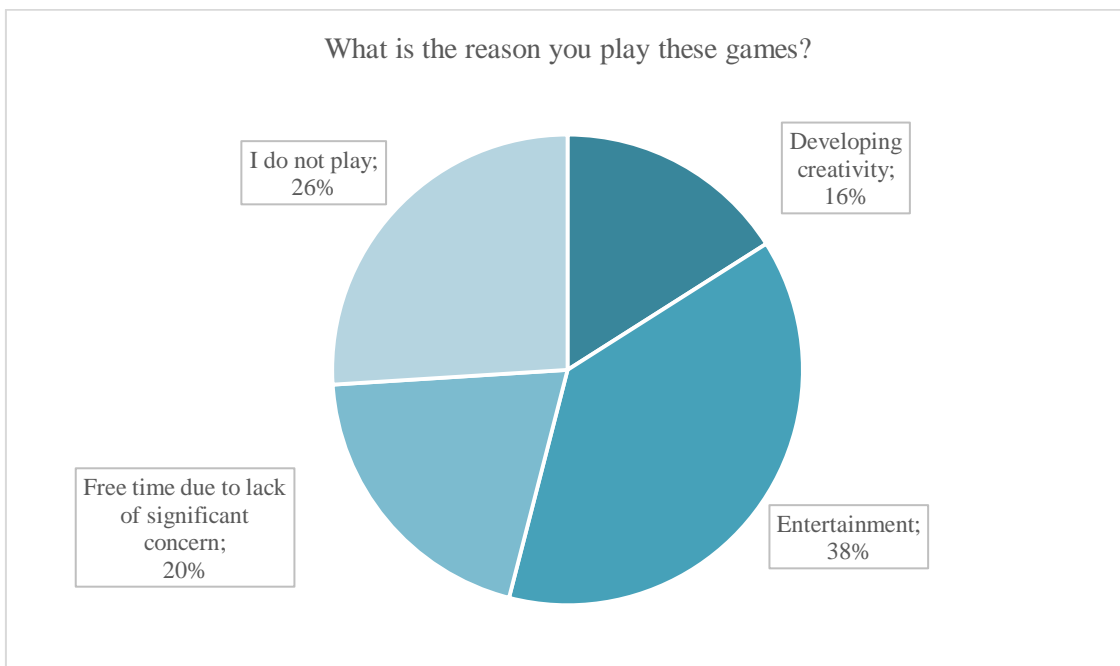
Fig. 5. Percentage of questioned teenagers related to the reason for playing video games

The question: "*Do you think that playing those games leads to a decrease in your school performance?*" has the role of determining whether students believe that playing games could affect their school performance. 12% of them chose the "Yes" option, and 70% of them chose the option "No", showing that most students consider that video games do not affect school performance. 18% of questioned students chose the option "I do not know" (figure 6).

To the question "*What do you think is the ratio between the time allocated to games and the time allocated to study?*", 46% of the students answered, "The time allocated to study is twice as long as the

Corresponding Author: Adina NICHITA

time allocated to videogames". A percentage of 20%, of students chose the option "Time allocated to videogames is equal to that allocated to study time", 10% of students responded with the option "Time allocated to videogames is longer than the time allocated to study", and 24% of the students chose the option "I don't play videogames" (figure 7).

The question "*Do you appreciate that your school performance has improved since you have started playing those games?*" has the role of identifying - in the case of students who played games - if they have noticed an improvement in school performance since they started playing". 26% of them chose the option "Yes" which indicates a category of students who they have improved their school performance in certain subjects by playing videogames. 16% of them chose the "No" option, 44% of them said, "There is no change", and 14% said "I do not play games and I cannot appreciate" (figure 8).

The question "*Can those games give rise to competition between different players?*" identifies a possible side of students' continuous involvement in games by competing with each other on resources, rewards, or skills in games (figure 9).
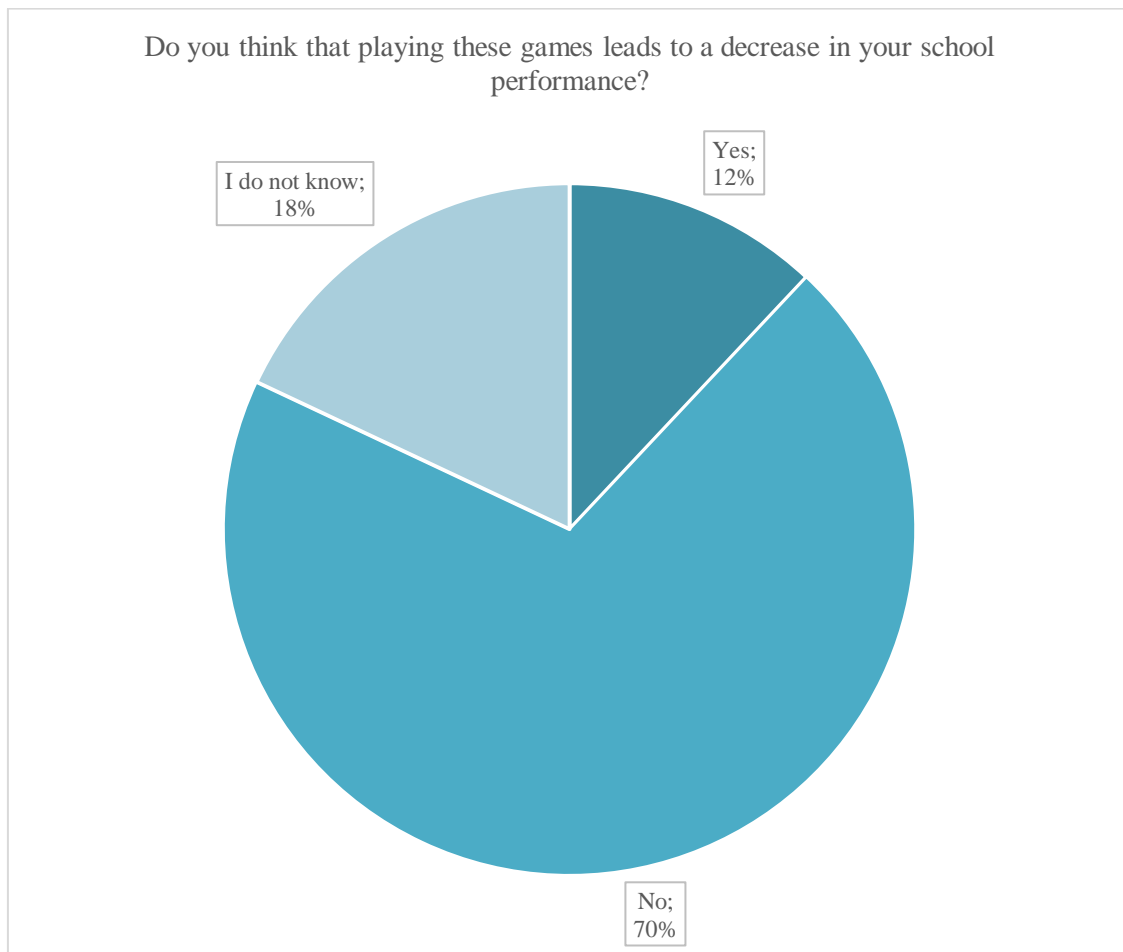

Fig. 6. Percentage of questioned teenagers who considered that playing games leads to a decrease in school performance
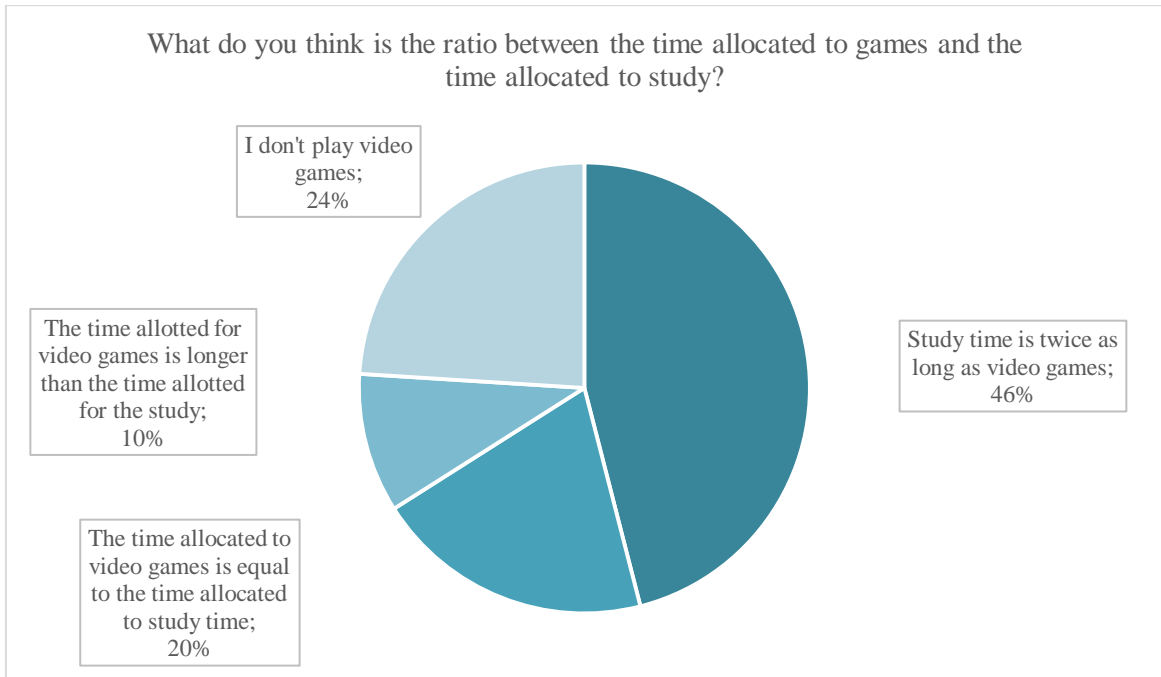
Fig. 7. Percentage of questioned teenagers considering the ratio between the time allocated to games and the time allocated to study
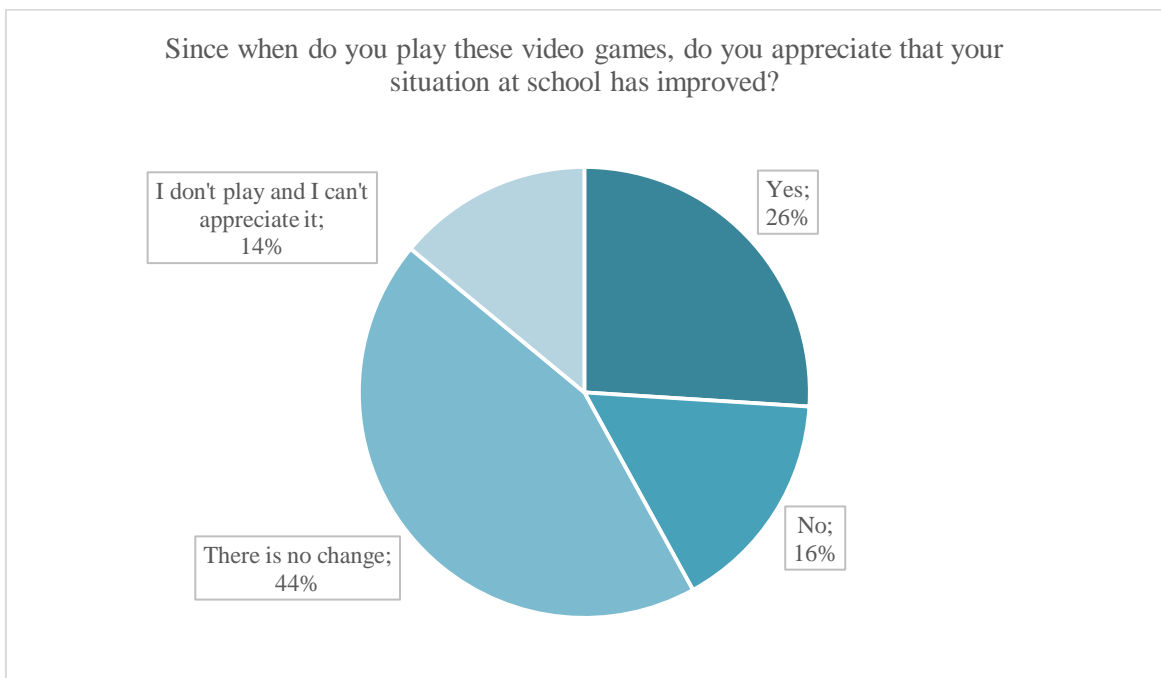

Fig. 8. Percentage of questioned teenagers expressing their opinions related to improvements in their school performance
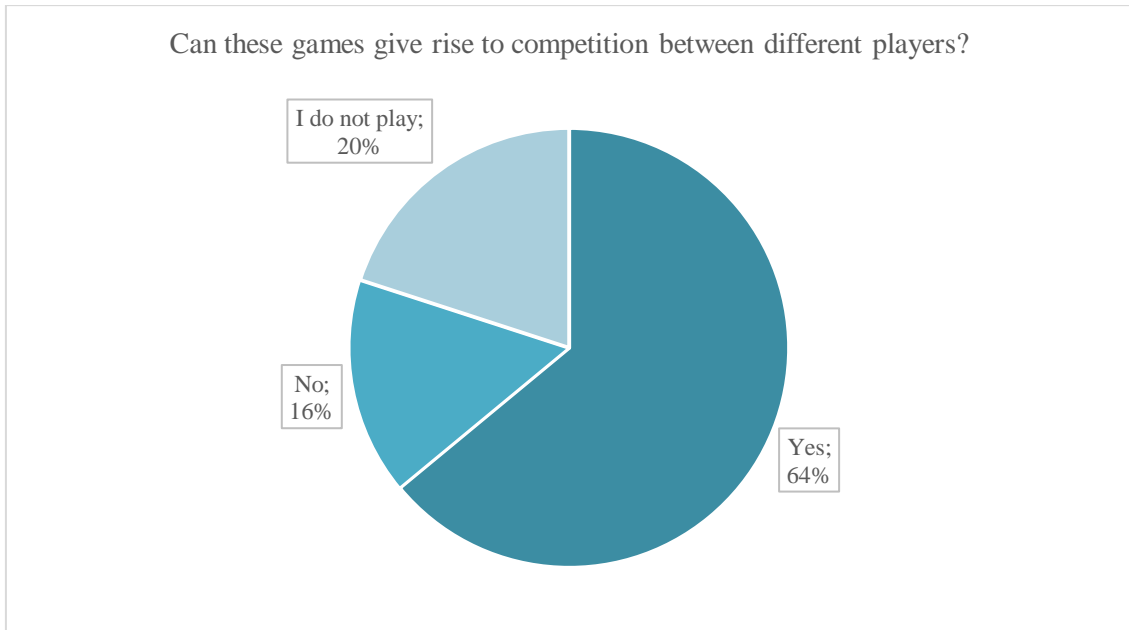
Corresponding Author: Adina NICHITA

Fig. 9. Percentage of questioned teenagers considering giving rise to competition between different players

The question "*Do you think that a competition between colleagues to obtain a school performance or a competition of colleagues in video games can be more interesting?*" has the role of outlining how students relate the school performance in conjunction with playing video games.
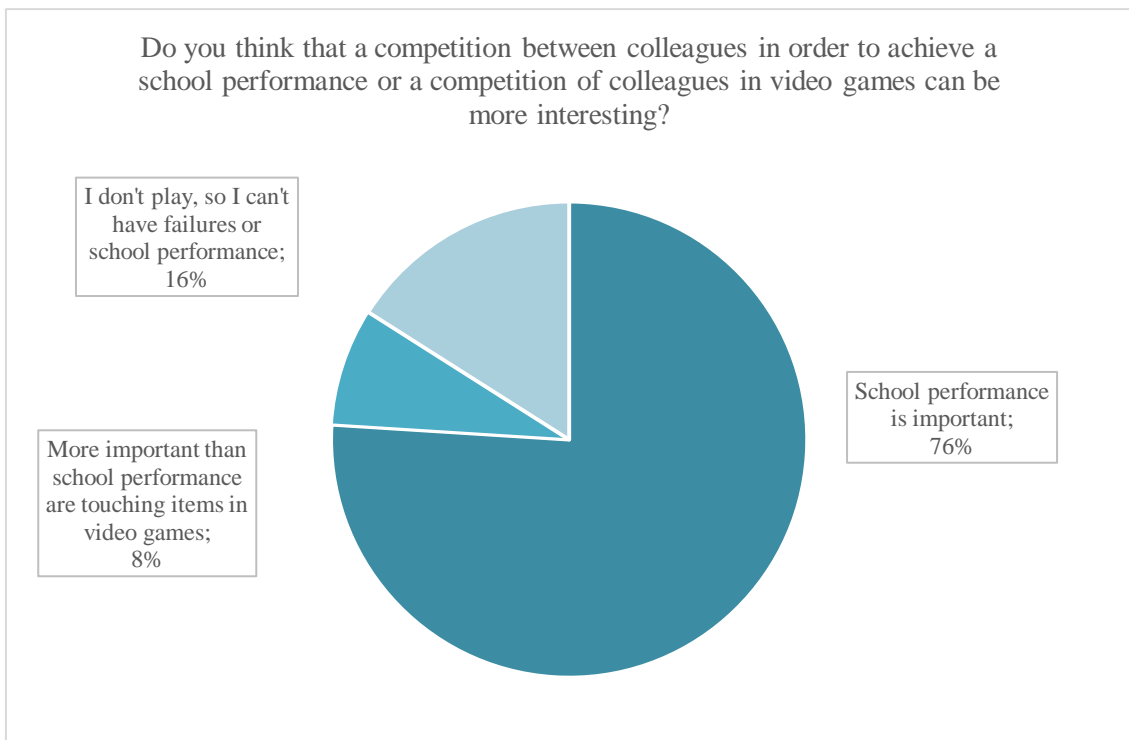

Fig. 10. Percentage of questioned teenagers considering competitions between colleagues

Corresponding Author: Adina NICHITA

4. CONCLUSION

Considering the results expressed in percentages in the previous paragraphs, obtained after administering the questionnaire, it can be deduced the following ideas: a large number of teenagers practice video games on different devices. The frequency with which they are played varies from one teenager to another, but a considerable number of teenagers play those games daily. Videogames are practiced in different places, but the favorite place for teenagers to play remains the house. The reasons why online games are played are different: from fun to lack of significant concern, to the development of creativity. Interestingly, about half of the interviewed teenagers spend twice as much time studying as online games, with about 30% of teens spending the same amount of time studying video games or even shorter time. The percentage of 20% of those who do not play those games is based on various socioeconomic aspects. School performance remained unchanged for a considerable number of teenagers, with some students saying that school results had been improved, while other teenagers said that their learning outcomes were poorer. One aspect that emerged and must not be neglected at all is that teenagers like competition.

BIBLIOGRAPHY:

[1] Fabricatore, C. (2000). *Learning and Videogames: An Unexploited Synergy*. In: 2000 Annual Convention of the Association for Educational Communications and Technology (AECT). Workshop: In Search of the Meaning of Learning, 2000, February 17, Long Beach, CA, USA. Retrieved from http://eprints.hud.ac.uk/id/eprint/28000/1/FabricatoreAECT2000.PDF

[2] Green, C.S., & Bavelier, D. (2003). *Action video game modifies visual selective attention*. Retrieved from https://www.nature.com/articles/nature01647

[3] Lee, J.H., Karlova, N., Clarke, R.I., Thornton, K., & Perti, A. (2014). Facet Analysis of Video Game Genres. In iConference 2014 Proceedings (p. 125-139). DOI:10.9776/14057

[4] Reyes-Hernández, K.L., Sánchez-Chávez, N., Toledo-Ramírez, M.I., Reyes-Gómez, U., Reyes-Hernández, D.P. & Reyes-Hernández, U. (2014). Los videojuegos: ventajas y perjuicios para los niños. *Revista Mexicana de Pediatría, 81*(2), 74-78.

[5] Salguero, R.T. (2009). Efectele psiho-sociale ale jocurilor video. *Jurnalul Internațional al Comunicării Audiovizuale, Studii Culturale şi Publicitare*, 7, 235-250

[6] ***Jocuri video (March, 2021). Retrieved from: https://ro.wikipedia.org/wiki/Joc_video