

Perception of benefits and costs of computer games among high school students in Macedonia

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Abstract— The internet and computers are constantly evolving. This means the people are always staring into the monitors. They can do different things on the internet like learning new stuff, watching videos, playing games, chatting with their friends, etc. But sometimes they forget about the time spent with their computers, doing their stuff, and sometimes their friends or parents will tell them to get off their computers because they can hurt their eyes, or they don't have a social life. Last year we surveyed this topic, but our goal was high school students in North Macedonia. So, in this paper, we will explain what are the benefits and what are the costs of playing computer games for high school students.

Keywords—computer games, internet, high school students

INTRODUCTION

People play games for different reasons, some of them play for fun, some of them play to relieve stress, and some people play games to spend time. Playing games can have both, advantages and disadvantages, for a high school student, like having bad grades if they don't know how to manage their time, problems with their parents [8] because they stare too much into the computer screens, not going out to catch a breath, violence, wasting their time, or if they switch to the good side of the book, they will see that if they play games, their IQ will increase, or they can learn new stuff and this depends on the genre, like cooking, building, etc. Today there are tons of platforms to play games, like mobile phones, computers, and laptop computers, consoles, decks. Every year tons of games are coming out from various developers around the world, some of them are free, and some of them cost money.

METHODOLOGY

Last year, we surveyed 188 respondents. The students who answered this survey are from different high schools. Most students are male 75.5% and female 24.5% and they are between 15-18 years old. We shared our survey on several news websites, such as e-sports websites [1] and classic traditional websites. Through this survey, we had several difficulties reaching the students in North Macedonia, because most of the high schools don't have a website or they have inactive social media pages like Facebook page or Instagram page. So we need to contact the headmasters through their personal contact information like Facebook profiles. We conducted this survey for several months, and in the end, we collected the answers. We also had several hypotheses which we wanted to confirm if they are true or fake.

The hypotheses we wanted to confirm:

1. Gaming disrupts the physical and mental condition of people.
2. Gaming improves communication and thinking skills.
3. Gaming socializes people and connects them with people of other nationalities and countries.

To confirm these hypotheses, we had several questions which some of which are with the Likert scale, to see their responses more correctly.

The questions that were in our survey:

1. What is your gender?
2. What year are you in high school?
3. Type of secondary school?
4. Do you play video games?
5. How much time in your day, do you spend playing video games?
6. Have you ever had a physical or mental disorder from playing video games (eg, kyphosis, damaged vision)?
7. How often do you interact with your teammates in the games?
8. Do you play online or offline games?
9. Do you think that by communicating with people from another country you are learning something new (eg new language, their culture)?
10. Which type of genre do you play?
11. Have you ever lied that you can not go out with your friends to play games at home?
12. How often do you hear rude words from your teammates about you or another player?
13. Do you think that playing video games improves the way of thinking and coping in certain situations?
14. Did you make a friendship with another player during your gameplay?
15. Do you watch e-sports or traditional sports?

RESULTS

When we asked them about the year, we got 27.7% of students are in the first year, 31% second, 26.1% in the third, and 15.2% are in the fourth year of their education.

This can be seen in Fig. 2 where we have our pie chart presented.

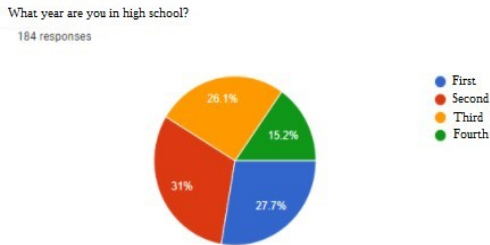


Fig. 2 What year are our respondents in high school

In Fig. 2 we can see that most of our respondents who play video games are in the second year of their education, and second place takes students who are in the first year of their education. This chart maybe can tell us that students who are in the early years of their education are more represented, or we have a small number of respondents that are in the fourth or third year. Our next question was about the type of their secondary education to see from which type of school our respondents are coming. As we can see from Fig. 3 76.1% are in vocational education and 23.9% are from the professional school where students are not focusing on one profession, but they are learning everything.

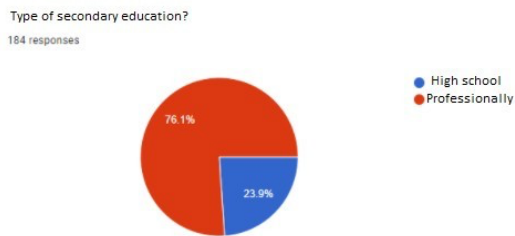


Fig. 3 Type of secondary education

The next question we asked was to see if the students play video games or not. Because we didn't want to have false answers. So from the chart (Fig. 4), we can see that 76.1% of the students are playing games, and 23.9% are not. This indicates that most of the students are playing games in their free time.

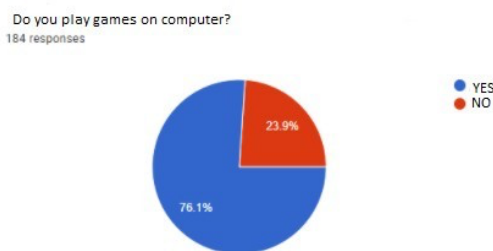


Fig.4 Do our respondents play video games

Our next question is interesting for time management. Because we wanted to know how much of our respondents play games in their free time, and from Fig. 5 we can see that 44% of our respondents play more than one hour per day second part from the chart is 24.2% of our respondents play less than one hour, which is good and they do something else than playing games. And we have 15.9% who play exactly one hour. These students can say that they have great time management. And 15.9% of the students don't know their average playing time or they don't want to say it.

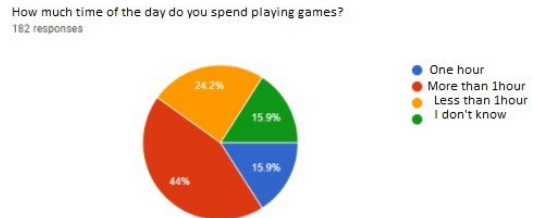


Fig. 5 How much time our respondents spend playing video games

Our next question was a little medical because we asked our respondents did they had disturbed physical or mental health from playing video games for example kyphosis, pain in their back or eyes, etc. In Fig. 6 it seems that 79.9% of our respondents didn't experience any disorders, which is good. But 20.1% of our respondents experienced some disorders.

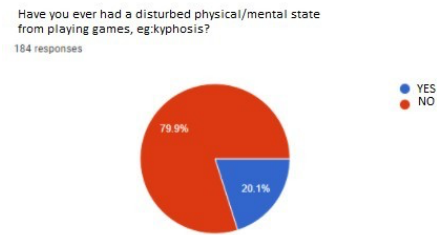


Fig. 6 Did our respondents experienced any disorders?

From the chart, in Fig. 6 we see that 20.1% said yes. But for example, if they got a kyphosis because they play games it's not true. Because they decide how to sit and how far away they are from their computer screens. They can get kyphosis if they write their homework without computers or watch videos or message their friends on Facebook. For our next question, we introduced the Likert scale and we have minus two respondents from our previous two questions. And we wanted to know how often our respondents interact with their teammates if they play online multiplayer games. We can see that 42.9% always communicate with their teammates during the gameplay, and 36.3% said that they sometimes communicate with their teammates. Maybe this means they don't want to talk too much, or no one is talking to them. And 20.9% said that they never communicate in the game, which indicates that maybe they are shy, or don't know the language they hear.

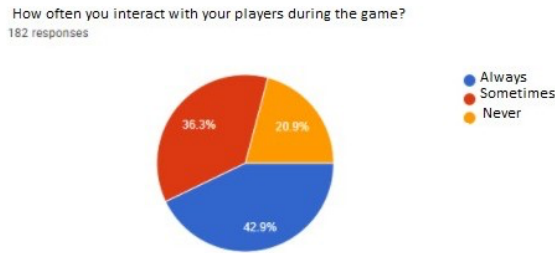


Fig. 7 How often our respondents communicate

In the next question we were interested in the games our respondents played, whether it's online or offline. For offline games they can't communicate with the players who are in the game, but they can communicate with a friend or the person next to them if the game is played with two players.

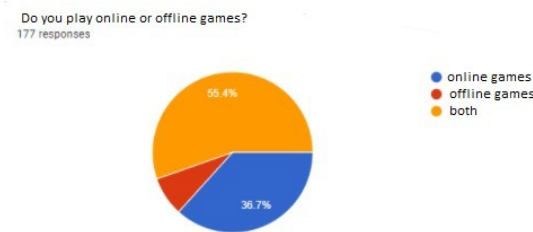


Fig. 8 Do our respondents play online or offline games

From Fig. 8 we can see that students who are in high school play online and offline games i.e. 55.4%, 36.7% play online games, and 7.9% play offline games. This chart indicates that most of the students are playing online games, which means they are active on the internet. This means that they can communicate with their teammate if the game can do that.

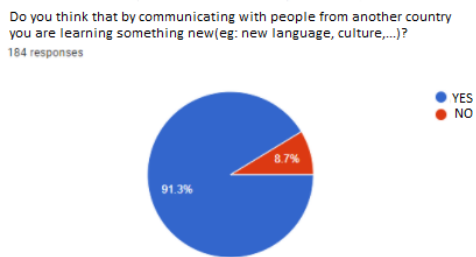


Fig. 9 What do our respondents think about learning new stuff from video games

In the chart from fig. 9 our respondents 91.3% said that they can learn something new while playing videos games. For example a new language or more information about their teammates. If the game is online, the players can be from another country and they will speak different languages which the player can learn more about that.

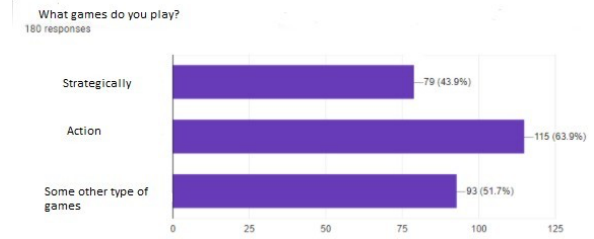


Fig. 10 The game genre

In Fig. 10 and our 10-the question was about the genre that our respondents play. We put an accent on strategy and action games because we believe that our brains are developing faster playing this type of genre. So 43.9% or 79 respondents said that they play strategic games, 115 respondents play action games, and 51.7% said they play something else. Sometimes they can hear rude words when they communicate with the players, friends, or someone else. Of course, this is present in the games, so we asked our respondents how often they hear rude words.

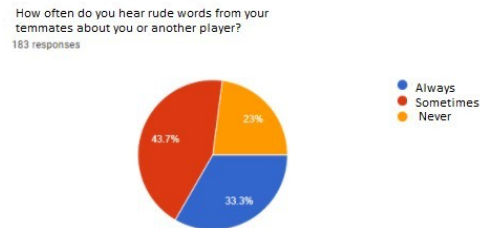


Fig. 11 How often do you hear rude words

Sometimes when people play games, they can make a friendship with someone else if that person is friendly. To confirm this, we introduced a question. As we can see in Fig. 12, 80.9% formed a friendship from playing games, which means, yes, people who play games can form a friendship with somebody.

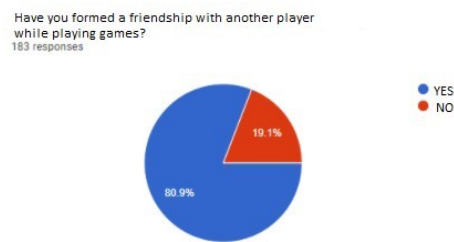


Fig. 12 Chart about forming a friendship in games

And for the final question for our research, we had to ask the students, do they watch e-sports or traditional sports? And for our luck 43.5% watch e-sports which is a new way of entertainment the younger and for the older generation.

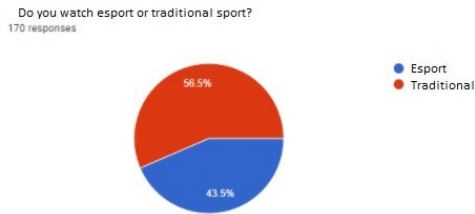


Fig. 13 Do high school students watch e-sports or traditional sports

DISCUSSION

With the first hypothesis we wanted to confirm does playing games can disturb the mental and physical condition of people, so we asked if they ever had a physical or mental disorder from playing video games, and most of them hadn't. To confirm the second hypothesis, we asked two questions: how often they interact with their teammates, and how they think that gaming can improve their way of thinking and coping in certain situations. The third hypothesis is linked with question 9 and question 14.

In one article from Dailymail [2], we can see that a man goes blind in one eye after playing video games on his mobile all night. He stared at the tiny screen of his phone all night. Yes, playing video games can damage the eyes, if the person is addicted to games and can stop. But this is not because of the games, but by looking at the screen for a long period, the eye can be damaged whether it is reading an e-book, watching videos, etc.

The third hypothesis is also true. If students play online games, they connect with different people around the world. This means they meet new people every day and if the other person is friendly, they can make a good conversation, whether it is for the game or their private life. Yes, in online games students often play games in teams, which means they can benefit their social development if its done in moderation [5]. Video games also provide the players with the opportunity to take a leader's position, which requires greater social networking skills and teamwork to keep other players happy. These skills are important the outside of the world for creating and maintaining friendships, especially in school and work environments.

In one study from pewresearch [7], more than half of the teens have made a new friendships online, and a third of them said that they met their new friend or friends while playing video games.

In another study from CNN [3] and our answers from the survey, we can also confirm that the first hypothesis is not true. In our survey and the survey from the study, we can see that many people who are in high school said that playing video games helps them either to deal with stress and difficult emotions or escape it from them. Especially during COVID-10 lockdowns. They also said video games allowed them to maintain friendship bonds in a multifaceted way.

Students must know how to limit themselves from playing video games for a long period. In research by Knepublishing [6] and from our question five on how much students spend their time playing games we can confirm that they know how to limit their time to function well in class.

From an article on the hightechwiz website [8], we can see several advantages and disadvantages which can be taken as an example. The first advantage is concentration. The levels in video games are designed with challenges and require the player to pay attention to the game. With concentration, the players can get analytical skills to solve those levels and their problems. This helps high school students to improve their thinking skills, which can be great for their future. Also, there is stress relief. If they play computer games, their brain release a hormone called dopamine which means they are happy and they can calm down. For the disadvantages, the article shows addiction which we wanted to confirm and other disadvantages for example socialization or health problems.

According to a survey conducted in the paper published by the National Library of Medicine [10], there is concern about the potential negative impact of video games on youth. Among gamers, 4.9% reported problematic gaming, defined as reporting trying to cut back, experiencing an irresistible urge to play, and experiencing a growing tension that could only be relieved by playing. Boys were more likely to report these problems (5.8%) than girls (3.0%). Correlates of problematic gaming included regular cigarette smoking, drug use, depression, and serious fights.

Jonathen Bartholomew, Board-certified Pediatrician in his article [9] highlights the pros and cons of video games for children. According to him although video games get a lot of bad press, they do have some benefits. The trick is to strike the right balance of good content and appropriate limits. After all, video games should enhance a child's life, not take it over. Video games can play a positive role in children's lives, but people need to be there to help set limits. If the parents are worried that their child is becoming too obsessed with games, then it's time to sit down and talk. They should be sensitive and nonjudgmental. If people need help, they can contact their pediatrician. He or she may have great tips and can even recommend a therapist who specializes in tweens or teens.

CONCLUSION

As we can see from our survey students who are in high school, can see that playing video games is not a time-wasting, i.e. by playing video games students can find a new way to communicate with others in a time when we have the Covid-19 pandemic. Also while playing video games, students don't go outside and they don't hang up with people in huge groups. By playing video games, they have a new way to socialize and if they use it with a good purpose, they can learn different skills from the games that simulate a real-life job. And they can boost our intelligence if they play mind games, or they can play games to earn some money, which can be used to pay student bills, etc. High school students must arrange their time and set their school tasks first, then if there was free time left, they can use that time to play games.

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