THE PSYCHOLOGICAL IMPACT OF VIOLENT AND SEXIST VIDEO GAMES ON CHILDREN

by

Albert Aproyan

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Contents

Abstract

The psychological impact of violent or sexist video games has been one of the most discussed topics in the research world. To understand whether violent and sexist games can or cannot have an impact on children, a research was conducted among 22 school children at the age of 12-13 years. Very loose but well-constructed questions were introduced in the form of a survey to get an understanding of their personal opinion on games overall. An ethnographic observation was held in computer clubs around Yerevan (Armenia). Mainly, the behavior of the competitors was closely observed to understand whether the gaming experience can lead to aggressive outbursts. Interviews with parents were held to understand the concerns the parents have about their children playing violent video games. The research has proved that violent video games do have a negative impact on children, mostly in multiplayer games, where there is a competitive environment.

Introduction

This paper analyzes whether violent and sexist games have a negative impact on boys and how it is reflected. The study will be conducted through the use of interaction analysis and a questionnaire. It will also include an ethnographic observation. Its goal is to understand how boys in Armenia react to violent and sexist games and what side or direct effects do these games have on them. The participants will be boys studying in local schools and playing in gaming clubs around Yerevan.

Today, we live in a century of technological advancement and innovation and day by day people are becoming more and more attached to their devices and computer screens. With the huge advancement in the gaming industry, games have become more graphic intense and violent, and the quality of the frames makes them look so real that they attract an even bigger mass of children to play them. The real question here is, do these new-generation graphically intense violent games have any negative impact on the psychology of these children?

After all, there is always a desire to buy newer devices and be up to date to experience the most of the new graphical enhancements. The gaming industries are a major reason why people start buying better computers. In fact, it is very simple. To play better games, with better graphics and gameplay one must have the necessary machine to be able to run it. The analysis would be based on whether the newer graphical enhancements add negative gaming experience for children.

Even though there is an age restriction set for buying violent video games, it does not stop children from buying those video games. For example, the biggest gaming engine worldwide is Steam and when a user is trying to buy a violent video game, it does ask for the

user's age but can easily be falsified as it doesn't require any proof. Children might be susceptible to violent games, as they are not mature enough to understand that whatever they see on their screens is not the real world and is only made to entertain them.

Most of the games sold in the gaming industry are shooters, RPG's (role-playing games), and horror games. A very simple implication can be made from this – violent video games do sell very well. Obviously, taking into consideration all of the competitiveness, the gaming industry didn't fall back and found new ways of engaging the gaming society. They have made games with MMR (match-making-rating) or leagues which illustrate the current skill level of a player. In turn, this new mechanism is so addicting that it pushes the player to play the game excessively to achieve a better rank. This, in turn, makes them play with other players and here the picture can get a little messy as team coordination becomes more important, and players start getting angry when encountering weaker teammates who might "ruin" their game.

Playing games like Grand Theft Auto 5 (GTA 5) which have online features often create a strong addiction to the game. The player has to log in every day, to receive a daily bonus and play hours and hours to make his/her gaming character stronger. Dr. Manukyan, who is a psychologist and has been working with children for over 15 years, was asked about video game addiction after being presented the information gathered from the surveys, questionnaires, tournaments, interviews and the ethnographic observation. After a two day examination, Dr. Manukyan didn't hesitate to share the results. He claims, "The video game addiction has been a problem for the last five years and it is growing day by day. A huge margin of the teens who spend a substantial amount of time in front of the computers become apathetic. They forget about their friends, they start disobeying their families, their grades suffer and they become belligerent. The gaming addiction, for children, is just a single level lower than drug or alcohol addiction. It

sometimes even surpasses those if the parents don't interfere. I consider this to be a psychiatric disorder, and people who suffer have to be treated as soon as possible."

Furthermore, games with a lot of player versus player (PvP) components cause flaming (online fights) and harassment (sending vulgar messages). The international weekly journal of science "NATURE" (2016), published an article about video game toxicity in a very popular MOBA game called League of Legends (LoL) with some examples of abusive phrases like, "faggot", "dumbass", "I will fuck your mom, kid" and many more examples. The racist and homophobic language is a huge problem, and this paper will analyze the reasons and the consequences of this behavior.

Literature Review and Analysis

The Role of Government in Regulating Violent Content in Video Games

As games are considered to be a form of "speech", it is important to view how legislation reacts to this type of speech. Numerous psychological studies imply that playing violent video games do increase addictive and aggressive behaviors, although the law of the United States believes that games are a type of art representing creative and intellectual content (Schiesel, 2011). As per this moment, Armenia also does not have any legal restrictions on gaming content. Everyone, regardless the age, can buy a game.

A year after "Grand Theft Auto – San Andreas" (GTA) was released, the developers made a new patch for the game, and it was featuring a hidden sex mini-game (Wolf and Dee, 2015). The game received the rating of MA (mature) immediately as it got bombarded by many critiques and dropped from retailers around the whole country. Another game that was criticized by politicians was "JFK Reloaded", where the player is in the role of President John Kennedy's assassin. To control the situation a decision was made by the government to fine retailers for as much as a thousand dollars if they knowingly sold adult games to children. Democrat Monique Davis stated, "Don't let them become the monsters that we see in these violent games". As for now, there are no bans on any games in the US. Everybody can freely play any game that he desires without violating the law. In fact, the National Institute of Media and the Family has found that 87% of pre-teen and teenage boys play games that are rated "M". (NYT, 2011) Should the legislation ban certain types of games and what other restrictions should it set for games which have the rating of MA (mature)?

As a matter of fact, games present us numerous ways of communication. In some particularly abusive games, there is a lot of hate speech and cursing. Obviously, this has a very bad impact on children and their way of communication. On the other hand, there are games which present historical facts and have a very rich vocabulary. These games often include advanced wording which enriches the vocabulary of the player. Games like Hand of Fate 2 (2017) and Darkest Dungeon (2016) are a bright example of good vocabulary usage and high level of knowledge in English. Both of the games guide the player through various adventures and during that long path, discuss both the lore and the choices of the player using advanced English.

The research conducted by Wolf and Dee (2013) involved a survey among 350 gamers who had to respond to questions about violence in video games. The research also examined options for restrictions on violent video games by the use of a video game rating system. The research hypothesis of the study was to investigate whether playing violent games can instigate copycat violence in real life. Dr. Dahl, a professional in the sphere of psychology, stated, "During the adolescence period, the brain creates a potential for dys-synchrony. This dys-synchrony leads adolescents to seek sensation-based experiences, including a natural increase in tendencies toward risk-taking, sensation seeking, and some emotional/motivational changes during puberty. During this period the morbidity and mortality rates increase by 200%" (qtd. In Wolf and Dee, 2013). This is the period when the adolescents are most susceptible to all kinds of accidents. Dr. Dahl also mentions that during his studies his colleagues used positron emission tomography (PET scans) to observe the players, and found out that "release of dopamine, a neurotransmitter believed to be involved in reinforcement of behavior". The issues here is that the behavior reinforced by violent games is negative and leads to aggressive behavior.

Researchers Chad Mahood and Mike Yao (Wolf and Dee, 2013) found out that students who play GTA 3 are less empathetic towards policemen than those who play Gran Turismo 3 – a racing game. During their research, they showed a video where a policeman was getting murdered and by the reactions of the students, those who played GTA 3 didn't react or even smirked at times, as the game had taught them to have little respect to the police, while those who played Gran Turismo 3, a racing game, were giving questions and were anxious about the video. Another game which can contest GTA by its brutality is "Columbine Massacre RPG". The graphics here are childish but the game does support cyberbullying, as the two main protagonists are murdering teachers and students.

The research conducted by Copenhaver (2015) reflects upon the legislative system in America. This study shows that violent video games are a reason for many school shootings in the U.S. School shootings have been a reason for the death of many children throughout the 21st century. Copenhaver is trying to reach out to the legislative system and make it take action to stop children from playing violent video games at all. On 14th of December, 2012, Adam Lanza shot and killed 20 children and six school employees of Sandy Hook Elementary in Newtown, Connecticut. It is believed that the cause was extensively playing violent video games. After a search at his home, the police found out that Lanza was a huge game addict with more than a thousand of dollars invested in games. Nonetheless, the US Supreme court decision was that video games cannot be regulated because of guaranteed free speech rights and it cannot be a major reason for conducting such a serious crime.

Different Genres of Games and Their Influence

The "Call of Duty" series has known to be one of the most popular game series ever. When Modern Warfare 2 was released in 2009 it estimated over $550 million of gross profit in only 5 years. (Dee, 2013) The game was inspired by real-life conflicts, featuring events in the 2008 South Ossetia war and the Mumbai terrorist attacks. Although the game was very educational, as you could learn more about the war and the technology used, it had many violent aspects in it which were the most intriguing part of the game. Violent video games are always preferred to other genres. Viewing certain violent actions imprint specific trained responses in the viewer which in the future might be brought to a real-life encounter.

Legal scholar Reeves (2012) believes that GTA is a way for people to "live out their sociopathic fantasies through random acts of senseless violence." Reeves notes that the camera view also has an impact on the gaming experience. A third-person action-adventure game like GTA portrays the person from behind which allows the gamer to view the entire character and the surroundings, while playing a first-person-shooter, like Counter-Strike where the user can only see the gun held in the hands of the character has significantly less impact.

The Impact of Violent Video Games

A study conducted by Maass, Lohaus & Wolf (2010) embodies how the violence makes young people become easily stressed and harms their academic performance and health. Throughout the study which was conducted in Germany, there was a medical research measuring the heart rate (HR) and the heart rate variability (HRV) when playing violent and nonviolent games, which obviously gives a very clear picture of how it affects behavior. Study participants

consisted of 98 German boys aged from 11 to 14. The study also explains how and why video games tend to be more enjoyable and more stressful than watching violent television programs. The final result showed that the HRV whilst playing a violent video game was two times more than when watching a violent film.

Another research by Farrar, Lapierre, McGloin & Fishlock (2017) reviews how different gaming controllers have an impact on children's psychology. By the results of the research, the usage of gun controllers provokes violence and aggression. During the early 2000's gun controllers were very common. Children played games on their Nintendo's using gun controllers which were devices made like guns which you could plug in and start shooting things on the TV screen from it. This action would increase real-life behavioral aggression and in most cases, parents would find their children's gun controllers broken from the fury of losing the game. Now, as the technology is advancing at a rapid speed, the new VR (virtual reality) devices present a new way of entertainment. The players are given a pair of glasses and controllers in both of his hands. Every move that the player makes, is mimicked in the game. The player is controlling the movement of his feet and hands with the controllers while he can look in different directions through his glasses. The research on weapon effects by Farrar et al (2017) shows that most individuals find a strong link between weapons and aggressive behavior. The experience which is gathered by playing video games and watching action movies makes people very comfortable with guns even if they haven't had used one before.

Violent video games are also negatively related to the perspective-taking ability and the ability to sympathize. (Vieira & Krcmar, 2011) A survey was conducted on 166 children from the age of 7 to 15 (average of 11) to understand how violent video games influence on moral reasoning about violence. The study shows how the games negatively impact on moral judgment

and reasoning, and the difference between different ages and gender. Often the target of violence is often perceived as an object, without substance, and is dehumanized (Lugo, 2006).

Impersonation of the violent character

The study conducted by Gabbiadini et al (2016) is about how sexist video games can decrease the empathy towards female violence victims. Throughout the research 154 participants were assigned to play a violent- sexist game, a violent – only game, or a non – violent game. After the gameplay, measures of identification with the game character were taken about how the games affected their masculinity and their beliefs, and also, how they empathized with the violence female victim. The results proved that gamers who identified themselves with the game character increased their masculine beliefs which in turn negatively impacted on their empathetic feelings towards the female violence victims.

A survey which was administered online (Zurabishvili, 2015) with 1863 respondents suggested that Armenia is a traditionally oriented and old-fashioned country. The old traditional ways imply that the man is the main decision maker and should be the sole money maker in the house. Thus, he decides where and how to spend the money. He is in charge and the woman must be submissive. If boys play violent and sexist video games from an early age where women are not respected, it will take the local stereotypes to another level and worsen the current situation.

The information gathered from the different sources is a good base for further investigation on the issue, whether or not violent video games can have a negative impact on children behavior.

Methodology

A survey conducted among 22 school children between the ages of 12-13 to understand their common beliefs about gaming overall. The structure of the questions was very loose but well organized to gather as much information as possible without creating any tension and discomfort among the pupils. 10 of the students were girls, 12 were boys. Some of the research questions inquired whether the pupil played video games at all, what genre they prefer, how many hours per day are they allowed to play and what do they feel after accomplishing something in the game.

To dig deeper into the research, interviews with three different families were held to get some insight into their children's gaming experience through their eyes.

The next part of the research was in the form of an ethnographic observation. Throughout the visit to various computer clubs in Yerevan, I observed how people of different ages respond to the competitive sphere of gaming. In one of the clubs that I visited, there were eight boys playing. Five of them were playing a very well-known multiplayer online battle arena (MOBA) game called DOTA 2 (Defenders of the Ancient), where the goal is to play together in teams of five and destroy the ancient building of the opposing team.

Fortunately, some undergraduate students of the American University of Armenia were also happy to share their experience about online multiplayer games.

Findings

Survey

As a result of the survey, 17 of the pupils noted that they play video games - all of the boys and 5 girls. The first question was which type of a genre the pupils prefer most. The purpose of this question was to evaluate the type of games each of the pupils played in order to understand which ones provoke rage most if they do at all. The boys chose to prefer the RPG, Action and Driving genres, while girls preferred puzzles and Arcade games. The interesting factor here is, that the first ones, graphically, look very realistic while arcade and puzzle games are very cartoonish. From here it is clear that boys prefer games which are closer to realism. Since the animations are more realistic in this case, the actions of the player cause more tension and the player relates more to the virtual character. The case is the same when watching television series. After watching a couple of series, the viewer gets more empathetic towards some characters.

The next question was about the number of hours they were allowed to play games. The average gameplay hours for boys was from two to three hours per day, while for girls it was ranging from thirty minutes to an hour and a half at most. From here it can be concluded that girls are not as much influenced as boys are because they spend very little time playing games and it doesn't become an obsession.

The third question received very interesting and diverse answers. The question was, "Why do you like the genre that you picked". Some of the boys answered that they like the dynamics and the realism of the action/shooter games because they get joy from shooting a variety of weapons and the sound effects create a complete immersion in the game. They also

stated that they like Driving games, speed, and good cars. Comparatively, the girls didn't shy away from saying that they like somewhat adventurous games that look childish and cute. In comparison to the girls, the boys were heavily indulged in competitiveness and realism, while the girls only play to satisfy their curiosity and have a good time.

The last question was whether they have any emotional outbursts while playing games. The well-known phrases among the gamers – flaming (blaming others for their mistakes), being toxic (insulting others). The answers I gathered were very disconnected, thus I concluded that they shied away from answering this question.

Generally speaking, it proved that boys have the tendency to prove their masculinity and play to achieve certain level/skill in games so they can brag about it and compare among each other to show their superiority, while girls are playing to have some good time. After the quiz, small conversations were held with the boys, where they confessed that they sometimes enjoy games where they can act freely and the actions of the player are not restricted. Most of the boys said that they like playing the well-known Grand Theft Auto (GTA), where the main protagonist is a gangster who freely roams in the streets and acts as he wishes, meaning – murder, robbery, heists, drug dealing, prostitution and many more severe violations of law.

It is apparent that while playing a video game, the player does not have to comply with any laws and is free to act. In fact, violent video games encourage acts like murder, maim, dismemberment. Some of the most popular games are about gangs, mafias which take under control districts and territories and during their campaign they kill policemen and murder innocent people. This subconsciously creates hate towards the government and the police in the player's mind which can have bad consequences in the future.

Furthermore, video games depict one of the best forms of entertainment throughout the world, but in some cases, these games can get very violent and inappropriate for the younger audiences. In America, there has been a lot of debate on this topic. The Congress has been pushing for censorship for the last decade but all of the attempted legislative restrictions have been neglected, thus giving the game developers the full rights to create extremely graphic and violent games.

Interviews

As mentioned previously, interviews with parents of 3 families were held. One of the parents restricted their 7 and 9-year-old boys from playing video games, as by their words, the children were becoming too addicted. The same parents stated that they noticed disobedience from their child, and after gaming for several hours, the child would not want to stop and would wait impatiently for the next session. Also, they mentioned that the children started receiving low grades in school and the teachers were worried about them not paying enough attention to the classes.

The second family had a single boy of 12 years of age. They said that they are paying close attention to the games their child is playing. They are keeping him busy throughout the day – sending him to practice drawing and English and only letting him play for 1-2 hours per day.

The third family had quite a similar situation like the second one. They had a 12-year-old boy and a 9-year-old girl and let them play only calm and peaceful games (cards, puzzles, mind games). They also said that they intentionally bought an average PC so that the children wouldn't be able to play the new generation games secretly when they are not home. They explained this

by saying, "Whenever our children become mature enough, and whenever that happens, either 16 or 18, we will consider letting them chose what they want to do on the computer. At this moment, we consider our children susceptible to any information, in any form, received from the computers. Be it visual or written. As the games, by themselves, are not the only source of the problem. The web is a much scarier place to be."

Observation of a tournament

During the observation of the tournaments, I have noticed that there was a lot of rage going on – people shouting in their microphones trying to prove a point, others being toxic and throwing various insults at each other. All of this over the popular video game named DOTA 2. The game requires a lot of thinking and strategy, communication, and also macro and micro skills. Macro skills are when the player has to control various units at once, while micro skills are when he knows how to manage his resources like – gold, ability cooldowns, and the management of his role in the team. There are five roles in the game, and each has a unique position assigned to them and has a special mission to carry out throughout the game. The positions are assigned in the following order:

- Pos. 1, "Carry" – the hero playing this position has to be very well equipped with armor and weapons so he can win team fights. He goes to a safe lane, where he receives help from the team's supports and gets stronger by each minute. He starts off weak but becomes stronger throughout the game. On the safe lane, he is susceptible to minimum pressure from the enemy heroes as he is being defended.

- Pos. 2, "Mid" – this player goes to the middle lane, where there is an intense one versus one battle going on between him and the enemy "Mid" lane hero. This lane is not as easy as the safe lane, as the hero here can be "ganked" (attacked from the enemy support or roaming hero) and is constantly being contested from the enemy "Mid" hero.

- Pos. 3, "Off lane" (also knowns as the hard lane hero) – this hero is also going alone on the lane, like the "Mid" hero, but is battling versus two or three enemy heroes (support, roaming, and carry). This lane is the ultimate challenge, as it is an insanely difficult lane, where the hero should try to survive as most as possible and get some levels (experience to upgrade his abilities). Fortunately for the player, the hero here is a relatively strong hero, with a potential to be the main initiator.

- Pos. 4, "Roaming Support" or "Roaming" – This heroes' missions is to roam around the map and help the off lane, mid lane and safe lane and when given the opportunity, "gank" (make a sabotage on enemy heroes to get kills).

- Pos. 5, "Support" – the role is similar to the "roaming" but with heavy emphasis on defending the "carry" early in the game and aiding, when possible, the mid lane from being harassed and placing vision "wards" (these give vision in a wide area to stop any types of "ganks"). In other words, he and the "roaming" hero are the navigators of the game. They are putting pressure on the map and creating sabotages.

When there is no synergy in the team play, and the support hero doesn't give the necessary help to the carry, and the latter one is getting annihilated by the enemy off lane hero, here the real war starts. They yelled at it each other, blamed each other for each mistake, there was no proper communication. Similar situations were happening during team fights, where there had to be good coordination between the team members so they could navigate through the battle with correct timing of skills and abilities to win the game but were failing to do so because of their tempers. Some of the insults I heard were – "You dumb idiot", "You stupid imbecile", "Wait until I find where you live", "I will track your IP address" and many more.

Apparently, all of this got me interested and I decided to attend gaming tournaments, as I am a good player myself, and be in direct connection with the young players. The tournament was held in January 2018, and the whole competitive scene would have to take place around two games – Counter Strike Go, and DOTA 2. Eight teams for each of the games were gathered, and I also had my premade team of battle-hardened players for DOTA. Most of the competitors were between 16-25 years old.

The first game of the tournament was DOTA. It was very tense. In some scenarios, I noticed that certain teams lose control over the process and start to panic, thus making mistakes, leading to the abusive behavior afterward. One of the teams even got disqualified for constantly shouting and being disrespectful while communicating. They were constantly being loud and blaming each other, it seemed that they didn't train so much and they lacked understanding each other's actions. The game has many bloody scenes of violence, bloodbaths, and murder so it might also be a reason to generate a certain amount of rage. Hence, there was constant shouting among the players. They were so immersed in the gaming process that they forgot that it was not a question of life and death but just a mere game. The process of demoralization among the

players was very high. It was evident that some of the players looked as if they had lost something very valuable. Some of the players were closing their faces with their palms and looking down after their defeat.

The second game was Counter Strike Go. The game is a five versus five shooter game. The teams' main goal is to wipe out the whole enemy team. There are 2 sides in the game – terrorists and counter-terrorists. The mission of the terrorists is to plant the bomb near the assigned place and defend it while it explodes, while the counter-terrorists have to find where the bomb is planted and defuse it by any means necessary. The game also ends when all of the players of one of the teams are dead. This game concentrates on teamwork and macro skill. Here the player must have very fast reflexes and fast hands to shoot his enemy down. In this scenario, the shouting was less, but the keyboards suffered instead of that. A few players who failed to make decisive shots at key points had to take their anger out on the keyboards. They bashed the keyboards with their knuckles and threw their headsets away. At the end of the games, when the losing teams were eliminated, the players of those teams were constantly blaming each other and were very nervous. Some examples were, "How couldn't you see him, he was right in front of you dumb f", "How did you miss that shot you retard".

Staying at the computer club and analyzing the situation for several days, I had the opportunity to observe how players react to other games as well. I noticed a decent amount of people playing a well-known game called WOW (World of Warcraft) which is a multiplayer RPG game. To my surprise, the people who played the game were very calm at all times. Nevertheless, it is important to mention that the level of detail of the game was also not great. No graphic images, no blood, no gore. The second thing is, there is no strong competitive scene in the game. It is more of a farming simulator than an RPG game, by that I mean, players are more

into gathering recourses individually and then trading with each other. There is mostly PVE (Player vs environment) content. In some cases when they have to do guild raids on dungeons (game locations with big prizes), they are fighting vs the AI (the computer) controlled monsters which are not so hard to defeat.

Another game they were playing was NFS (Need for Speed). It is a single player driving game. When I was silently observing them, I could notice a lot of tension on the faces of the players when they had to drive a Lamborghini at 350km/h, and when they crashed their cars, the anger was very noticeable - heavy breathing, watching at the screen nervously, squeezing their palms. The game offers single player experience, and at some levels where it is difficult to win and the player fails for several consecutive times, it makes them angry and depressed. From this observation, it can be concluded that failing a level for several times can bring up tension and depression. Another very good example of this is the game series called Dark Souls. The game is an RPG single player game where the levels are made so hard that the player might be stuck on the first level for a long time, dying to the boss. After, they receive a message "You Died", and they see this same message for many times during the course of the game, and it becomes very irritating and infuriating. It takes a lot of strategy and fast hands to win at this game, and for some, it is a very depressing and nerve-wracking experience, while for others it is just a mere challenge to get better depending on the person.

Comparing and analyzing all of the information gathered, it could be said that single player games do not enrage the player as much as multiplayer games. A reason could be because the player doesn't want to depend on others and feels bad about losing because of others.

An interview with a student

As mentioned previously, 3 students of the American University of Armenia were interviewed about video game toxicity. One of the students mentioned that he has to endure the toxic behavior of the children almost every time he plays DOTA 2. By his words, it is very hard to find a game, where he can play quietly, without any insults and just have some good time. Another gamer from AUA stated, "The players who insult and blame others get a lot of reports. Fortunately, there is a system that tracks behavior score in DOTA 2, and monitors the behavior status of all of the players by calculating the commends/reports ratios, and if someone was very toxic and didn't behave well, he is put on a team with toxic players like himself until he starts respecting the others and gets enough commends to get out of that awful hell." The third student mentioned that he and his little brother whose age is 9, enjoy playing competitively with each other. He said that they play Counter-Strike most of the time, and it is the only place for him to calm his nerves. I asked him how he did that and he answered, "Well, sometimes you have the need to shoot someone to calm yourself. I find this to be a way to control my anger without doing anything stupid in real life. Shooting from weapons has always been my thing. I like to show off my skills and kill some "noobs" (newbies)". Using the word "noobs" can somewhat imply that the player used this gamer specific language during communication with other players. In addition, inappropriate use of language might have also been used during game time as the student noted that he played to calm his nerves.

Personal Interpretations

Being a person that has spent a big chunk of his time in playing different games and watching different streams, I have noticed that racism is a big issue in multiplayer games. Unfortunately, no study has been conducted so far to understand whether certain nationalities can be more or less aggressive in multiplayer games than other nationalities. I have been a DOTA 2 player for more than 5 years, and have spent 3 000 hours in the game. From my personal experience, playing on Russian, US, Eu, and Asia servers, I can say that there is a big difference in the community and in their way of communication. Playing on the Russian server one can forget about the game because the toxicity is outrageous and there is no single game where you can have a good gaming experience. Being an Armenian, I am receiving a lot of hatred from the Russian community. Some examples which do happen very often would be, "Hey, tomato seller why are you playing on our server", "This watermelon seller, who is a fucking no life idiot, shouldn't play with us", "You non-Russian scumbag, go play on your EU server". The examples are endless and these were only the rather "weak" ones. Sometimes, I am struck by the ability of some people to construct sentences consisting of only insulting words. If you dare say a word on the microphone, and they notice that you are not a Russian, then you are their biggest enemy. They forget about their game and start swarming the chat with insults and shout in their microphones.

On the other hand, the Asia server is a completely different story. The people here are very adequate. If someone is playing awfully, they would explain and transfer their knowledge to the player, rather than shout on them and lose the game. They are very calm and patient. They are not easy to make angry. They will not insult you if you don't start first. In other words, they can control themselves.

A rather similar situation is happening when playing on the US server. People are calm, they play to their fullest and contribute to the game as much as they can. Some have the nerve to teach you how to do certain things, others just prefer not to talk and mind their own busyness. They are tolerant overall. The interesting thing here is that you can always find some Russian players on both the US and Asia servers, who will still try to ruin the other players' experience. Some of the most known Russian streamers on Twitch.tv prefer to play on the US server just to avoid the toxic environment of the Russian server.

Regarding the EU server, it is no different than the Russian Server. When the players of the Russian community want to search for a match, in order to lessen the search times, they are setting their filters to search on EU West, EU East, and Russia.

A conclusion can be made from this, the children who are playing on the EU and Russian servers are in direct contact with the toxic environment. If not monitored, they soon can become one of them.

The analysis was going solely on DOTA 2, but there is a huge competitor to this game, in the same genre, called League of Legends. The community here is a bit more laid back but there are still instances of communication abuse (Nature, 2016). All of this was well monitored by the gaming organizations of Valve (DOTA 2) and Riot (League of Legends). After 2016, everything went a little down as LoL created moderated systems with warning messages. Some of them, "Please remain friendly towards other players. Excessive use of abusive language is punished by permanent in-game ban". While DOTA in early 2018 created a system where the player who gets more than 8 reports throughout 10 games has the chance of getting banned for 6 months. This was a big hello to the players. Nobody believed that this would work until a lot of people started getting bans and opening new accounts with a new attitude. This time, a lot more tolerant.

Nevertheless, it is still widely believed, by the gaming communities of both of the sides, that LoL is way less toxic than DOTA 2. One of the main reasons for this could be the gaming communities being mostly from the lower parts of Asia, and a low Russian player base. Another reason could be that in LoL players cannot use microphones so they have to stick to the written communication and it is hard to both play adequately and chat at same time. A takeout from this is that some game features, such as microphones, can instead harm the gaming experience.

Limitations and Avenues for Future Research

One of the biggest limitations of the research was lack of up-to-date information about the possible impact of gaming on people. Searching on various platforms, I couldn't farm any relevant information about a research made during the last few years about the latest games and the gaming culture surrounding them. Most of the literate sources were very old (2000-2009), and the games that were discussed were nothing compared to the graphically intense ones that we have nowadays. There is a huge difference between the graphics of a 2000's games and any 2016 - 2018 game. The games nowadays have astonishing graphics. In some cases, it is barely noticeable or distinguishable whether it is a game or a film.

Interestingly enough the topic of gaming addiction is very widespread on the internet, but nobody that I noticed has made a research about the possible outcomes of the addiction. Since the new multiplayer aspects of the games were not observed in any research, I had to refer to my own experience in the field.

The Q&A's conducted with the children could have been better, because, they seemed to be less talkative. It would be better to have individual conversations with each one of them.

If I was given the needed recourses and I was allowed to one-on-one interview some children, I would get more informative answers about a lot of questions. A good addition to the research would be to analyze tournaments in different countries like China, Japan, US, Russia, and India. Observing different gaming cultures would be a huge step forward to finding solutions.

Another thing to research would be, analyzing how the same people play different genres of games. There are some multiplayer racing games but they are not played a lot and the competitive component is missing which, so far, proved to be the biggest reason for anger and toxic behavior.

A good idea would be interviewing different age groups. It would be interesting to know what older gamers think about this issue. There are people at their 60's who are playing video games. I am curious how they react to the toxicity and how it affects them.

Looking up the gaming forums is also a very good way to analyze the communication methods of the gamer society. Beginner forums, guides, and chat rooms could provide a good insight into the gaming culture.

There are many popular gaming YouTube channels that are giving tutorials and guides to new players of different games or are just there to entertain the viewers. If, given the chance, communicating with the owners of these big channels would give a lot of valuable information about how they attract big audiences of children and how they respond to the toxicity, aimed at their address, in the comment sections.

Looking up different Twitch channels of popular streamers, analyzing the chat reactions to the actions of the streamers. I would pay a special attention to this one because I recognize a tendency from the "toxic" audiences to make fun of the streamers when they are losing or having a bad game.

All in all, the opportunities for research in this sphere are limitless. If given the necessary resources and time, a good research on this topic might bring up to solutions. Gaming addiction and toxicity is a real problem nowadays, and it shouldn't be overlooked.

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