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Spring 5-18-2020

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ART 108

18 May 2020

2005 was an amazing year. I was 7 years old-- free-spirited, only cared about my morning, cartoon shows and my neighbors who I played with everyday. That year, I also received my first gaming console. My parents bought and surprised me with my first Game Boy. I still remember the time I opened the box, and held a flip-up, blue Game Boy. It came with a Pokemon game, which was one of my favorite shows to watch as a kid. That was my first, few memories when it comes to gaming. After a year or so, I got my first PlayStation. My favorite game to play was Tekken. I remember playing with my cousins for hours, choosing either Eddy or King as my character. Gaming was one of my favorite things to do when I was a kid. But as years passed by, I found other hobbies that caught my attention and time. I still played games, but I rarely do it by myself. I would only play with friends at parties, or maybe when it's the last option to do. My perspective changed about gaming, especially when people connected it with various negative benefits. But this negative perspective I had changed after I learned more about gaming-- its roots, different objectives, strategies etc. Being enrolled in ART 108 has tremendously helped me in creating a whole new perspective about gaming-- its benefits and its connection to human life.

As technology evolves, the production and advancement of video games has risen to new heights. People, in different age groups, play a variety of games for their own entertainment. The rising market of games has led to various studies that highlights the effects of gaming. Playing games has positive benefits for the player, including various effects in the player's cognitive, emotional and social functions. Currently, the situation involving the Pandemic and its negative effects are impacting every human being in the world. Rules and regulations concerning social distancing and quarantine have been made, changing everyone's daily routine. Because of this,

people are looking for new ways of entertainment. Gaming is one of the biggest options available.

Even before the quarantine started, people from different age ranges have spent a lot of time within their humble abodes playing video games. Children to teens are a huge market and audience in gaming. This led to different concerns especially for parents. Kids are exposed to different types of games at a young age. Some of these games are graphic and violent, which leads to a lot of assumptions and misconceptions. Video games such as the Mortal Kombat series, Grand Theft Auto series and Call of Duty are some of the popular games that faced controversies due to their graphics and material.

Various researches have been conducted involving the benefits of video games and their connection to children's psychosocial development. Adam Lobel and a team of researchers examined 194 children within two timepoints (Lobel et al., 2017). Gaming's effects on people, especially on the younger age range's psychosocial development remains debated. Thus, this issue has been continuously examined. Their intent on researching about this field was influenced by other studies that involved video games with potential causes for aggressive behavior, depression and hyperactivity (Lobel et al. 2017). Lobel and his team concentrated on the "potential psychosocial benefits" that can impact the young video game players. The team focused on both the negative and positive outcomes of playing. The 194 participants who are involved in the study were between the ages of seven and eleven. The explanation behind their chosen age range was primarily due to the assumption of Bushman's studies-- "children are the most vulnerable to the effects of video games" (Bushman, 2006). Children were targeted because of their susceptibility to being majorly influenced by video games, as they are still "forming

patterns for dealing social and emotional challenges” (Lobel et al., 2017). Lobel et al.’s longitudinal design allowed their team to explore and discover the tandem development of psychosocial health and the act of playing video games.

The length of their study happened at two time points. The participants were assessed through five domains of their psychosocial health. These five domains are “externalizing problems, internalizing problems, hyperactivity and inattention, peer problems and prosocial behavior” (Lobel et al., 2017). Their team predicted that the domains of externalizing problems, internalizing problems, peer problems and overall psychosocial problems will decrease. The team collected their data through home visits 1 year apart. The participants issued self-reports and had a face-to-face interview with an experimenter. Their parents provided information through an online questionnaire.

The results of the study were measured by using the Strengths and Difficulties Questionnaire (SDQ, Dutch Version). This report uses a “3-point Likert scale (0-2 Not true to Very true) and consists of five sub-scales” (Lobel et al., 2017). The five domains were used within the SDQ. The SDQ also included “total difficulties” which sums the scores of all scales in the four domains, except for prosocial behavior. After analyzing the data from the two time points, the data showed decrease within peer problems during the two time points (first time point: mean of 1.14, second time point: mean of 0.97) as well as the overall total difficulties (Four of the domains; first time point: mean of 7.15, second time point: mean of 6.47) within the participants.

Another assessment was conducted in terms of the children and their gaming frequency. These were assessed in three categories: “parental reports for gaming hours average per week,

child reports for gaming hours during the past week, child's ability to recall their gaming hours" (Lobel et al., 2017). Their research resulted in moderate correlations within the three, assessed categories. The children involved in the assessment were asked about their favorite video games. During the first time point, their favorite video games were: Minecraft, Super Mario Bros., and Subway Surfer. During the second time point, the favorites were: Minecraft, Fifa, Mario Party and Hay Day.

Through Lobel et al.'s longitudinal design study, they concluded that gaming frequency was "associated with increases in children's internalizing problems, and was not associated with other changes" (Lobel et al., 2017). The team also concluded that there was no potential relationship between "gaming and changes in hyperactivity and inattention and in prosocial behavior" (Lobel et. al., 2017). Through their survey about the participants and their choice of games, conclusions were made that their preferences for the genre of games weren't associated with "externalizing problems nor prosocial behavior" (Lobel et al., 2017). Lobel et al.'s research concluded that violent video games weren't associated with any rise in the participant's "externalizing problems nor with a decrease in prosocial behavior" (Lobel et al., 2017). This result was influenced through their mixed choices of video games, as some of the played games exhibited and contained low violent content. Lobel et. al's research proved that gaming did not show any harm for participants's (children) psychosocial development. But, this study advises parents to be more attentive and careful, as there are potential risks in their process of internalizing problems because of gaming.

The rise of video game playing throughout the years has created a lot of misconceptions and assumptions within the public. People would call out violent video games as a major

influence in the rise of violent acts in their communities. Some people would blame the gaming industry for manipulation and mind control. Some angry parents would even punish their children by controlling their access to their games and consoles. The rise of video games and technology is becoming a huge part of our lives. But some of society's misconceptions and assumptions are solely not backed up with any concrete or accurate evidence. Thus, huge interest in researching and studying about games has been more prevalent in our generation.

Another study was conducted to further research in video gaming. This study was conducted by Palaus et al., in 2017. Palaus and his team wanted to learn more about the relationship between the usage of video games and various cognitive factors. The method involved the usage of "standardized search operators" (Palaus et al., 2017). The method also required neuro-imaging processes and connections to structural brain changes. The team had separate categories to figure out studies presenting Internet Gaming Disorder. Their research discussed the various effects from the usage of video games, and how it depends from its exposition (age, gaming frequency) and the participant's personality or characteristics. This research is a great resource as it involves multiple sources of information, and doesn't only focus on one research study.

The research's method involved various articles, mainly focusing on the effects of video games exposure over the nervous system. (Palaus et al., 2017). The researchers also discuss the potential transfer of effects from playing video games to "wider cognitive domains" (Palaus et al., 2017). The articles that they used had a variety of participants including a wide range of ages, players (new and expert players), and those who revealed their gaming addiction or disorders. The articles also mentioned various methods that were used in their studies. The research

categorized the methods in three groups: “studies comparing expert v.s. Non gamers, studies comparing characteristics of two video games and studies where new gamers were trained in the usage of a game against a control group” (Palau et al., 2017). Several neuroimaging approaches were used including structural magnetic resonance imaging (MRI), computerized tomography (CT) scan etc. The academic articles used were discovered by using two databases: Web of Science and MEDLINE. (Palau et al., 2017). The articles range from creations in 1992 to February 2016. The collected data from these articles were extracted into different groups: study design, the video game’s name and genre, purpose or focus of the game, sample characteristics, neuroimaging approach and the “functional and structural neural correlates” (Palau et al., 2017). The researchers categorized the information for discussion and were placed based on the cognitive functions: “attention, reward processing, cognitive control, visuospatial skills, cognitive workload and skill acquisition” (Palau et al., 2017). For attention, the researchers concluded that through the usage of “electrophysiological techniques”, video game play has a correlation with “an increment of the frontal midline theta rhythm which is associated with focused attention”. This was further discussed in one of the articles they cited involving Pellouchoud et al., 1999’s research. For visuospatial skills, researchers discussed the detection of neural correlates that are related to visuospatial skills. “They were detected with structural volume enlargements of the right hippocampus” (Palau et al., 2017). This happened in long term gamers after a video game training session. One of the articles they found showed an “increased hippocampal volumes”, which were included in Szabo et al., 2014’s study. Visuospatial skills surround the processes that allow human beings to “recognize and manipulate

visual stimuli” (Palau et al., 2017). An individual’s cognitive control, workload and skill acquisition are also depicted in the research with various effects.

The research done by Palau et. al, are very informational because of their usage of wide range academic sources. Palau et al., concludes their study by stating that “the usage of video games has a lot of effects in different brain functions-- specifically in cognitive performance and behavioral changes”. (Palau et al., 2017). The data involving the effects of video games on one’s cognitive functions are exponentially rising as years pass by. With the advancement of technology and creation of more video game consoles, the generation of data within the industry is multiplying.

Art 108 has provided a lot of interesting information about gaming to students. In the class, students learn different game strategies and objectives through playing various games, whether it's through online games or on paper (board games). This kind of teaching has been applied in a lot of higher education institutions. Games vary in different genres, focused in teaching the subject of the class. The easy accessibility of resources and technology has strengthened the idea of teaching with gaming materials. A study researched by Vlachopoulos et al. focuses on “the effects of games and simulations on higher education” (Vlachopoulos et al., 2017). In their study, Vlachopoulos et al. aims to study the impact of games and its correlation to their specific learning objectives. The researchers initially identified the usage of games for learning simulations. Vlachopoulos et al., analyzed their results through comparison with prior research. The researchers had to differentiate the terms “games” and “simulations” and provided various definitions. Vlachopoulos et al. also examined literature involving the effectiveness of “all types of games and simulations in learning outcomes” (Vlachopoulos et al., 2017). Through

a systematic review with the help of Tseklevs et al., 2014's research-- they discovered that serious games were effective in "motivating and achieving learning goals". (Vlachopoulos et al., 2017). The researchers also used a study conducted by Rutten in 2012, which focused on laboratory activities. Simulations that are considered as training tools can be significant in fostering effective laboratory activities in educational institutions. The researchers concluded their study with identification involving three learning outcomes. These learning outcomes that resulted from the integration of playing games are: affective, cognitive and behavioral. (Vlachopoulos et al., 2017). Vlachopoulos et al. 's research can be compared to the research done by Palaus et al., because these researchers both used reviewed papers or academic articles in proving and furthering their study about gaming. Both studies show positive effects from playing games which demolishes the misconceptions and assumptions surrounding gaming.

Gaming, specifically video games has affected everyone's lives since its creation during the early 1970s. From being a form of entertainment to being an instructional material for class-- the impact of gaming is highly visible in our society. The future of gaming is getting bigger-- with the creation of various video games genres, consoles etc. Gaming is exponentially rising with the advancement of technology. With its exponential growth, video games or gaming should be used in our society not just as a form of entertainment, but as a tool for education and self-growth.

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