

Psychological Effects of Video Games Among Gen-Z

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Abstract—Majority of Generation Z are very familiar and know well everything related to technology including video games. However, they are likely exposed to a variety of psychological issue due to video game addiction as claim by society. Therefore, this study aimed to analyze if video games have an impact on Generation Z behaviors and emotions while they are playing the game or after they have completed it, for a short or long period of time. There was an online survey consisting of 13 questions conducted using Google Form which our scope is focusing on Generation Z. It was hypothesized from the survey conducted that video game addiction can affect Generation Z through their mental and physical negatively, besides, video games addiction also affects the Generation Z's social circle. However, if they consumed the video game in moderated way, it will affect them in positive way. The study's implications and limitations were reviewed, as well as recommendations for further research.

Keywords— *Video games, Generation Z, Psychological effects, Video game addiction, Positive effect, Negative effect*

I. INTRODUCTION

Video games are described as interactive digital video games which purpose commonly to entertain gamers. Video games allow gamers to get entry to digital environments, 2D or 3D, within precise policies and conditions that are different between games [1]. Video games are known to have several benefits such as improved focus, multitasking, and working memory, but it may also come with consequences when it is used frequently [2]. Adults, as well as children and adolescents, spend a significant amount of time playing video games [3], and this number is gradually increasing across the globe [4]. Parents and professionals may be concerned that their children who play excessively are becoming "addicted" [2].

Following millennials, Generation Z (also known as Gen Z, iGen, or centennials) refers to the generation born between 1997 and 2012, who grew up in a world with web, internet, smart phones, laptops, publicly available networks, and digital media [5]. Generation Z has grown up with the social web, is digitally savvy, and considers technology to be their identity. They were born and raised in a digital world, and what sets them apart from others generations is that their lives are more closely linked to gadgets and the digital world [5]. According to the quantitative research conducted by a study [6], 90

percent of Gen Z play video games on their mobile phone, console, or PC, and 37 percent, the majority claim to play console games or mobile phone games with 31 percent at least once a day, and 29 percent play more than 4 hours a day.

In video game studies, there is consistent evidence that video game play can result in physiological, psychological, and cognitive developments [4]. In considering these effects, many of the research focuses on the negative effects of video games [4]. As a result, various researchers in the domains of computer science, psychology, education, and youth studies have studied video games [1]. There are certain **issues** that have been highlighted in this study including: (1) What is video gaming from Generation Z's perspective? (2) How video game addiction can affect negatively towards Generation Z mentally & physically? (3) What are the benefits of video games if uses in a moderated way towards the Generation Z? (4) Do video games addiction affects the Generation Z's social environment? The **goal** of the study is to investigate if video games have an impact on Generation Z behaviors and emotions while they are playing the game or after they have completed it, for a short or long period of time. The following are the research objectives: (1) To find out what is video gaming from Generation Z's perspective? (2) To investigate the negative effects of video game addiction towards Generation Z mentally & physically. (3) To analyze the benefits of video games towards Generation Z when uses moderately (4) To investigate the effects of excessive video gaming towards the Generation Z' social environment.

II. LITERATURE REVIEW

A. Video Game Addiction

A video game is a form of interactive digital entertainment that can be enjoyed on a computer, a game console (such as the Xbox or PlayStation), or a smartphone or tablet [7]. Smartphones, feature phones, pocket PCs, personal digital assistants (PDAs), tablet PCs, and portable media players are all examples of mobile gaming [8]. Mobile gaming addiction is a rising problem that puts users at risk for physical and mental health issues [9]. Researchers have discussed how psychological processes such as changes in cognition or arousal may be involved in explaining the effects of

videogame play, while moderators of the effects may include developmental stages of players, cultural factors, and key individual factors such as levels of psychoticism, individual differences in anger prior to playing, and a person's motivation for playing [4]. The allure of computer games is so great that some people are concerned that young people are spending too much time playing games and surfing the web, which could lead to game and internet addiction [3]. These researchers discovered similarities between game addiction, internet addiction, and gambling addiction, and discovered that these behavioral addictions were all linked to emotional intelligence issues [2].

B. Positive Effects Of Video Games

Video games have become extremely popular among young people, particularly Generation Z. Certainly, video gaming has effects on the gamers, positively and negatively. According to the study, video gaming has given positive impacts towards the gamers. It has been proven in [10], that the English teacher mentioned that video games have positive effects towards the students in terms of learning English as a foreign language. Heavy gamers learn and become acquainted with these words by playing video games, which generally contain English vocabulary. Video games also play an important role in educational sector, it will be a beneficial educational tool for the teachers to teach the students. This way; they are able to teach the students while keeping them entertained. Furthermore, according to [10], educational video games such as Kahoot, and Ed Puzzle have been shown to increase students' interest in the subjects being taught. Other study by Zaheer Hussain [11], suggests that some of the positive effects of video gaming included meeting new people online, learning about new cultures, facilitating teamwork, and building friendships. It also improves the efficiency of the gamers at using the computer. Online video gaming is also viewed as a medium that encouraged individuals to use their imaginations while also teaching collaboration and planning skills. Such positive effects offer credence to collaborative learning models that emphasize problem-based and experience-based learning for the gamers [11]. On that account, video gaming has undeniably positive effects on gamers when managed appropriately; yet, excessive exposure or time spent on video gaming might have harmful effects as well.

C. Negative Effects Of Video Games

The vast majority of teachers, pediatricians, and parents are convinced that video/computer/online games have absolutely negative effects on children and adolescents [12]. Physical health issues such as physiological arousal, fatigue, and stress, computer visual syndrome, postural, muscular, and skeletal disorders such as carpal tunnel syndrome and repetitive motion strain of the thumbs, osteochondrosis, shoulders, neck, and spine fatigue problems, sleep deprivation and poor sleep quality, skin issues such as itching, dryness, and burning, and lack of movement are several of the negative consequences [12]. Personality traits such as low self-esteem and even to clinical symptoms of depression and anxiety disorders has been found can be caused by the degree of addictive video game use [2]. Videogame playing has also been discussed to be related to reduced school performance and success in academic [4]. The likelihood that video/computer/online gaming leads to

greater hostility and violence were also hotly debated. The majority of the most popular digital entertainment games on the market contain violent content [3], and studies have indicated that some video games, such as first-person shooters and other violent video games, might cause players increase the appearance of external behavior problems such as aggressive actions [1]. Exposure to violent games will result in long-term changes in an individual's beliefs and attitudes.

III. METHODOLOGY

This study will be conducted among the Generation Z age group of society. A questionnaire will be given out to the general public to measure the psychological effects if video games towards the Generation Z age group which is the age group of the targeted audience. The study's questionnaire was adapted from a previous study by [13]. The questionnaire consists of questions that invoke answers in 9 categories such as preoccupation, tolerance, loss of control, withdrawal escaping adverse moods, playing for long periods of time, deception, self-sabotaging relationships or opportunities, and persistence despite problems. This survey has 13 questions. Following that, this study will look into articles about the psychological consequences of video games on Generation Z. The information gathered from the questionnaire will be analyzed by observing pie charts.

A. Participants and Procedure

There's some previous literature identified that the children and young people with age group between 6- and 24-years old play video games daily [10]. However, in this study, researchers only focus on subjects who fit the criteria of Generation Z, aged 10-27 years. Despite the fact that mobile games are popular and widely accepted among people of all ages, [14], When compared to other age groups, the age group of students always had a stronger attachment to video games [15]. From the online survey distribution, 120 people answered the survey. The demographics of the respondents are shown in Table I.

In this study, researchers use primary data obtained directly from respondents by filling up Google Form as it is better than interviewing individual respondents because it will make the process much easier, and data can be collected faster. The primary data used collected through a questionnaire method which distributed online through social media including WhatsApp, Instagram and Email to the respondents. This research will take place in June for a week. The questions in the questionnaire are answered using single-answer multiple choice question. The respondents were required to answer all the questions in the questionnaire.

B. Analysis

Based on a previous study by [13], the questionnaire includes all of the DSM-5 diagnosis criteria for Internet Gaming Disorder (IGD). The results of the semi-structured face-to-face specific clinical interview and a functional analysis of IGD using a semi-structured clinical interview confirmed the diagnoses. The statistical software SPSS was used for all statistical analyses. As one of the objectives, the questionnaire data was analyzed to determine the symptomatic and personality profiles of young patients with IGD in comparison with healthy controls.

In the process of issuing the questionnaire, researchers adopted a sampling method which is quota sampling. Data collected throughout the study will be analyzed in charts to show the Generation Z's perspective towards video gaming, the negative effects of video game addiction towards Generation Z mentally & physically, the benefits of video games towards Generation Z when uses moderately, and the effects of excessive video gaming towards the Generation Z' social environment.

TABLE I. THE SAMPLE'S DEMOGRAPHIC CHARACTERISTICS.

Measure	Item	Number	%
Age	10-15	1	0.8
	16-20	1	18.3
	21-25	96	80.0
	26-27	22	0.8
Gender	Male	43	35.8
	Female	77	64.2
Occupation	Working	4	3.3
	Not Working	1	0.8
	Student	115	95.8

IV. RESULTS AND DISCUSSION

In this section the results from the questionnaire that has been distributed on platforms that are mostly used by Generation Z will be analyzed and discussed to gauge the answers of the 120 respondents that play video games.

A. Generation Z preoccupation with video games and long hours of playing it

Fig. 1 Respondents' preoccupation with video games

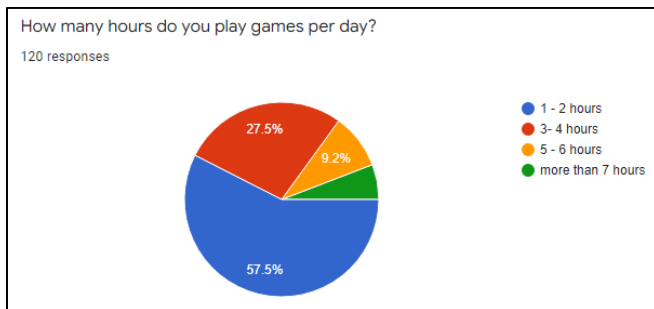


Fig. 1 visualize the results of the respondents spent their hours playing video games per day. The highest percentage of respondents is 57.5% where most respondents play 1 to 2 hours of gameplay. There is the least number of respondents that play video games more than 7 hours per day. This indicate that most of our respondents play a reasonable amount of time per day playing games.

B. Generation Z's tolerance towards video games

Fig. 2 Respondents opinion regarding video games tolerance

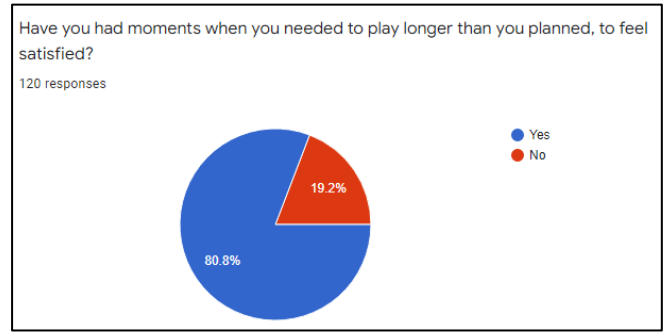


Fig. 2 shows that majority of the respondents experienced moments where they need to play games longer than planned to feel satisfied with a staggering amount of 80.8% of respondents feel that way. Meanwhile, the minority with a percentage of 19.2% do not feel the need to play games for a longer period to feel satisfied.

C. Generation Z's deception because of video games

Fig. 3 Respondents' tendencies to lie due to video games

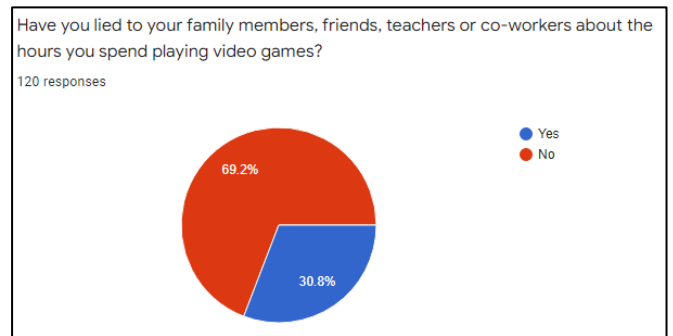


Fig. 3 indicate that majority of the respondents with a 69.2% had not lied to their family members, friends, teachers or co-workers about the the hours they spent playing video games. On the other hand, there's 30.8% of the respondents had lied about the hours they've spent on video games towards their family members, friends, teachers or co-workers.

D. Video games effects upon generation Z's relationships

Fig. 4 Respondents' relationships issues caused by video games

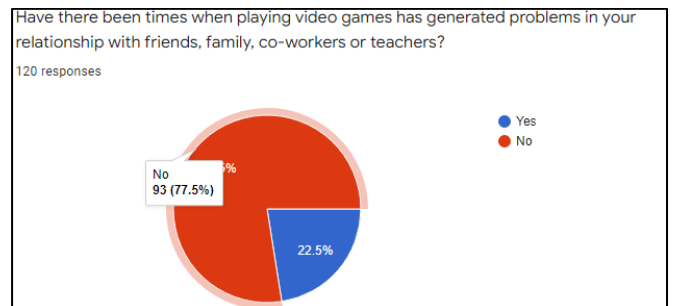


Fig. 4 shows that 77.5% of respondents claims that video games has not generate problems for their relationship with their family members, friends, teachers or co-workers, while only 22.5% of the respondents admits that video games has generate problems for their relationship with their family members, friends, teachers or co-workers.

E. Generation Z's tendency to be irresponsible due to video games consumption

Fig. 5 Respondents' negligiance or procrastination habits due to video games

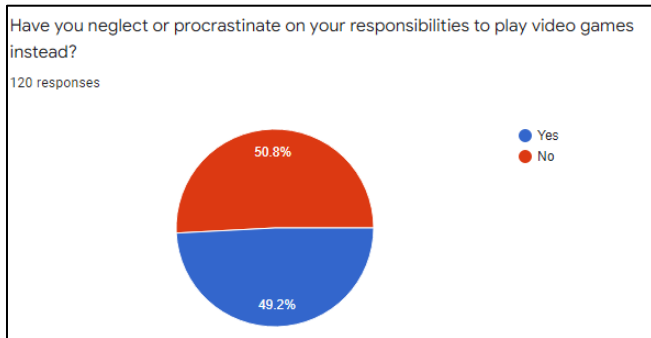


Fig. 5 indicates that about 49.2 % of respondents admits that they do neglect or procrastinate their responsibilities to play video games instead of prioritizing to their responsibilities. On the other hand, 50.8% claims that they don't neglect or procrastinate their responsibilities to play video games instead of prioritizing to their responsibilities.

Fig. 6 Respondents' poor performance due to video games

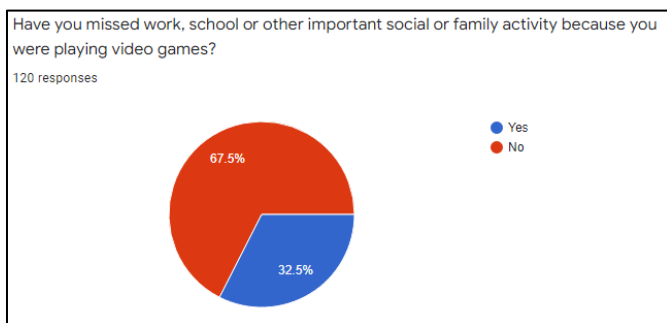
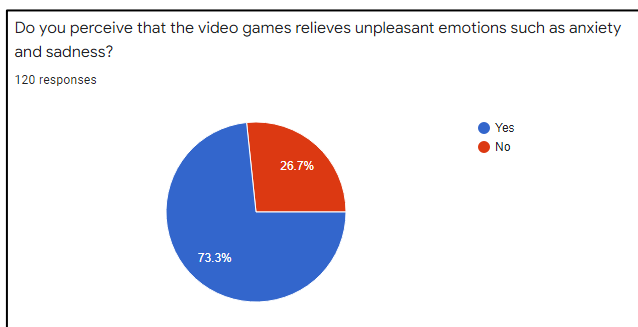


Fig. 6 shows that a majority of respondents with a percentage of 67.5% claims that video games does not cause them to miss work, school or other important social or family activity while they are playing games, but 32.5% admits that video games does not miss work, school or other important social or family activity while they are playing games.

F. Generation Z usage of video games as a coping mechanism to escape adverse moods

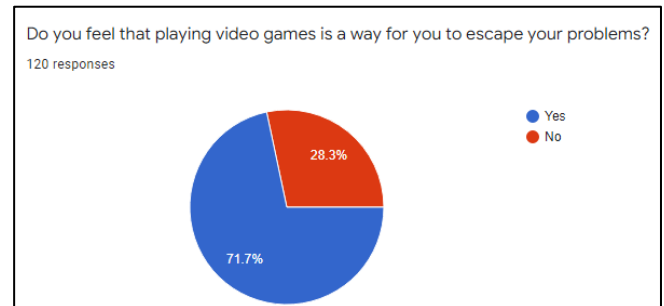
Fig. 7 Respondents on Video Games Relieves Unpleasent Emotions



According to the survey conducted in Fig, 7, 73.7% of the respondents agrees that by playing video games, they could

relieve unpleasant emotions such as anxiety, depression, sadness, and stress. On the other hand, 26.7% of the respondents does not agree that video games help to relieve their unpleasant emotions.

Fig. 8 Respondents on Playing Video Games Is a Way to Escape Reality



Based on Fig. 8, 71.7% of the respondents admit that playing video games is one of the ways for them to escape their live problems, though 28.3% of them does not feel that they could escape from their lives problems by playing video games. For that reason, based on the facts obtained from the survey, it can be concluded that more than half of the respondents playing video games as a coping mechanism towards the unpleasant emotions of their lives.

G. Generation Z's tendency to lose of control towards video games

Fig. 9 Respondents on Tendency To Stop Playing Video Games Among Respondents

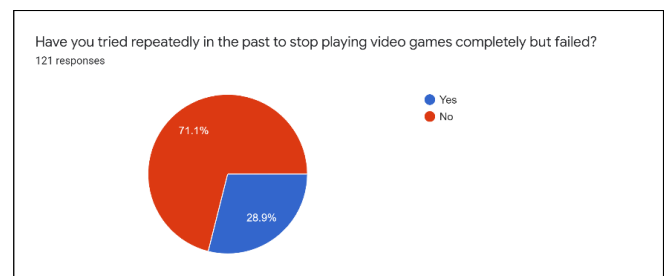
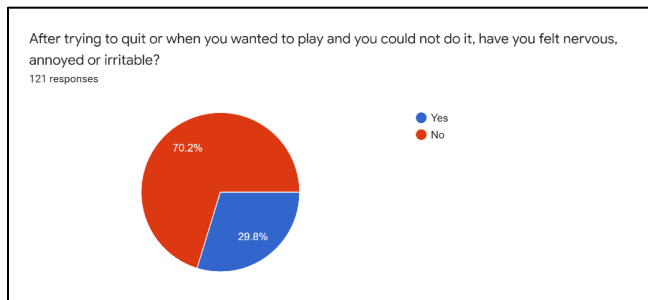


Fig. 9 shows the result of the survey conducted among the generation Z on whether they have repeatedly tried to stop playing video games but failed to do so. From the survey, 71.1% of the respondents stated that they have not repeatedly tried to stop playing video games and failed before. However, 28.9% of the respondents admit that they have repeatedly tried to stop playing video games in the past and completely failed to do so. Based on the above reason, it can be presumed that the tendency to lose control towards video gaming is based on the individual, some have zero to no problem to stop playing video games, yet, it might be a big problem for the heavy (excessive) gamers to do so.

H. Generation Z's experiencing withdrawal after quitting playing video games

Fig. 10 Respondents On Experiencing Withdrawal After Playing Video Games



Based on the survey in Fig. 10, 70.2% reported saying no to experiencing withdrawal after trying to quit playing video games, even so, 29.8% of the respondents admit to feeling a sense of withdrawal after trying to quit playing games namely feeling nervous, annoyed, restless, and irritated.

V. CONCLUSION AND RECOMMENDATIONS

A. Conclusion

This section concludes the study of The Psychological Effects of Video Games Among Gen-Z that was conducted using google forms which was spread via WhatsApp, Instagram and also Email. This study formulated three conclusions which are (1) Video game addiction can affect negatively towards Generation Z mentally & physically. (2) Video games consumption in a moderated way has benefits towards Generation Z. (3) Video games addiction affects the Generation Z's social circle as well.

B. Implication

Combining the finding of the study, it was shown that video games have their own pro and cons towards a generation Z [16]. Despite that, it is undeniable that video games addiction will highly impact generation Z negatively in their physical and mental. However, video games do have benefit if the user use it moderately and correctly. The most typical meanings of playing video games - spending time, entertainment, and sociability – might be expressed into positive for them during playing the video games [17]. The video games seem have an issue if the user use it too much that can lead to addiction. Furthermore, people who were playing computer games had limited social participation [18]. Video game addiction among generation Z can lower their self-esteem and make them uncomfortable to socialize when gathering with family or society.

C. Recommendation

Based on the result from the study conducted, the fact that video games have positive impact toward generation Z cannot be ignored. Since children nowadays love playing video games, therefore, parents play an important role in monitoring and help them to not playing video games in long duration at one time. According to [17], they suggested on make a time limit since online gaming addiction and gaming length is associate with each other in their study. It is obvious that children will neglect their commitment if they devote all of their free time to computer games. Further research into the effective way to help generation Z playing video games without addicted is required.

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