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GENERAL HEALTH AND PSYCHOLOGICAL WELL-BEING IN ESPORTS AMONG ADOLESCENTS AND YOUNG ADULT ESPORTS ATHLETES

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ABSTRACT

Excessive play of eSports as a video game lead to excessive screen time that is linked to risk factors for cardiovascular disease. Due to various health risks associated with eSport players, it comes to our attention to investigate the current general health status of the eSports athletes. Having positive psychological well-being is very important to human beings as it composes self-acceptance, environmental mastery, personal growth, purpose in life, autonomy and positive relations with others. Purpose of this study is to reveal how eSports affects adolescents and young adults' general health and psychological well-being. Subjects were high school and college students participated in eSports tournaments ranging from 14–26 years of age completed the general health status questionnaire (SF-1) and psychological well-being scale. The Mann-Whitney U Test used in this study to answer the research objective. Finding on general health status showed mean and standard deviation score for adolescents is (1.86 ± 0.85) and young adults (1.94 ± 0.92) and the mean score of overall health status between age groups is (1.89 ± 0.87). Mann-Whitney U Test showed the exact significance was not significant at the p-value 0.846. Psychological well-being score revealed adolescents had a higher (42.86 ±12.43) than young adults (42.25 ± 10.76) and the mean psychological well-being score between age groups is (42.59 ± 11.59). Mann-Whitney U Test showed the exact significance has no significant value (p-value 0.596) between the group. eSports did not significantly impact respondents' psychological well-being since the mean of the whole psychological well-being scale was 42.59, close to 56. Overall eSports did not influence adolescents and young adults' general health and psychological well-being. However, considering the emerging popularity of eSports and increasing digital platforms nowadays, undoubtedly bringing even more sedentary life. Future research should consider the amount of playing time (hours) per day among eSports professional players that have a special schedule of training in order to measure the effects of eSports participation on psychological well-being more precisely.

Keywords: *eSports, general health, psychological well-being, adolescent, young adult*

INTRODUCTION

In recent years, technology has molded the world in response to human needs. Technology has had an impact and altered many industries, including sports. A new subset of the sports industry, electronic sports or eSports, has emerged recently. Many of today's sports sectors now regard eSports to be their

most potential sector for future development (Nielsen & Karhulahti, 2017). However, the majority of adults are completely unaware of this breakthrough idea (Kocadağ, 2019). The streets used to be filled with youngsters playing football, basketball, and other sports. These sports games just shifted to mobile devices. Many different video game genres are represented in eSports, including *Player Unknown's Battlegrounds*, *Mobile Legends*, *Call of Duty*, and others. Tournaments for these eSports are held all over the world at various periods of the year, with huge cash rewards for the winners (Kocadağ, 2020). For example, world-renowned League of Legends player "Faker" makes $2.5 million per year in base salary, not including prize pool or streaming earnings (Newell, 2018).

It is not surprising that young people are gravitating away from traditional sports and toward eSports when the former generate as much money as they do. Furthermore, when it comes to the gender breakdown in the world of eSports, it has been found that men have traditionally dominated the event (Happonen & Minashkina, 2019). Studies of the gender ratio of eSports participants and spectators show that women make up fewer than one-third of either group (Cunningham et al., 2018). Moreover, both eSport athletes and teens with a gaming addiction share a predilection for playing video games for long periods of time. Addiction to video games is a major public health concern.

It is mentioned that the average weekly gaming time for an eSport participant is between 6 to 42 hours (Garcia-Lanzo & Chamarro, 2018). Reviewing the literature, an expert by Granic et al., (2014) concluded that playing video games was connected with cognitive, motivational, social, and health benefits, despite the negative stereotypes around video gaming (Mihara and Higuchi, 2017) and eSport (Shum et al., 2021). There is some information from the gaming literature that shows young adults who play video games frequently are less likely to engage in the recommended amount of exercise (World Health Organization, 2018). Consistent with the findings of past studies by specialists, it has revealed a wide range of health concerns associated with eSports participation (Zwibel et al., 2019). On the other hand, there may be negative effects on adolescents' physical health, mental health, depression, social and emotional problems, and more if they play mobile games for long periods of time every day. Exergaming, or interactive exercise video games, combine exercise with game play and have been extensively examined for their health advantages and higher levels of physical activity (Jiménez Granizo et al., 2020). Until now, it is unclear whether or not eSports will be formally acknowledged as a genuine competitive sport (Yin et al., 2020).

Excessive play of eSports as a video game led to excessive screen time that linked to risk factors for cardiovascular disease such as high blood pressure, obesity, low HDL cholesterol, poor stress regulation (high sympathetic arousal and cortisol dysregulation), and insulin resistance (Lissak, 2018). Other than having risk to get postural problem, players of eSport however prone to get overuse injury such as eye fatigue, wrist pain, neck or back pain due to prolonged sitting time and eyes on mobile, averaged 3-10 hours per day (DiFrancisco-Donoghue et al., 2019). Previous research has linked increased weekend video gaming time to an increased health risk of obesity (Arnaez et al., 2018), as well as a lower likelihood of meeting World Health Organization (WHO) Physical Activity (PA) guidelines (WHO, 2018). Due to various health risks associated with eSport players, it comes to our attention to investigate the current general health status of them.

Having positive psychological well-being is very important to human beings as it composes self-acceptance, environmental mastery, personal growth, purpose in life, autonomy and positive relations with others (Brady & Grenville-Cleave, 2018). Unfortunately, several kinds of video games have different negative effects on a person's psychology. For example, violent video games are shown to be an outlet for anger and frustration for adolescent boys (Greitemeyer, 2015). Teenagers behave similarly when playing fantasy games with unrealistic characters. More importantly, when teenagers play video games for an extended period of time, they exhibit pathological symptoms. Adolescents who are addicted have been observed to exhibit loneliness, anxiety, and depression (Sarda et al., 2016). As eSports have a majority of players from 16-30 aged groups (Yusoff & Mohd Yunus, 2021), students are no exception. However, it is not yet clear how the various reasons that people play video games connect to their psychological health (von der Heiden et al., 2019). Amidst this issue, this research will investigate eSports players among students from adolescent and young adult age groups to get a clearer picture of the impact of eSports players on general health and psychological well-being.

METHOD

Research Design

The study utilized a quantitative survey approached to identify the general health and psychological well-being among eSports adolescents and young adult eSports athletes.

Participant

A total of 37 students from two age groups of adolescents (Age =14-17 year) and young adults (Age= 18-26 years)-who played Mobile Legend, eFootball PES and PUBG took part in this study.

Instrumentation

General Health Status **(**SF-1), used to measure the general health of the sample. The SF-1 is a shortened version of the more used generic health status survey known as the SF-36 (Ware, 2000; Avery et al., 2006). Utilizing the single item SF-1 has its benefits, and conducting a valuable assessment of one's overall health state is one of those benefits (Bowling, 2005). The single question on the SF-1, which runs from "poor" (1) to "excellent" (5) is used to assess the participant's current state of health. Previously, the South Australian Government (Avery et al., 2006) utilized the SF-1 to evaluate individuals' perceptions of their general health. The SF-1 has been shown to accurately predict a wide range of health-related behaviors, including weight status and physical activity (Segovia et al., 1989). Psychological Well-Being of eSport athlete was assessed by using Psychological Well-Being Scale (Diener et al., 2010). Each item on a 7-point Likert scale from strongly disagree (1) to strongly agree (7). The scale measures self-perception in relationships, self-esteem, purpose and meaning, and optimism. Scale item factor loading ranges from 0.61 to 0.77 and Cronbach's alpha was 0.87 (Diener et al., 2010). The data had been collected by a web-based questionnaire which is composed in Google Forms, published at WhatsApp and Email.

Data Analysis

The data were statically analyzed using the Statistical Package for the Social Science (SPSS) Version 29.0. Descriptive statistics were used to measure the mean and standard deviation of General Health Status and Psychological Well-Being Scale. Mann-Whitney U Test was conducted to compare the mean scores on the SF-1 and PWB scale between the adolescent and young adult age groups. A significant value was set at $p<0.05$.

RESULTS

General Health Status (SF-1)

In the table below the results of general health status indicate that young adults (1.86 ± 0.85) scored better health status than adolescents (1.94 ± 0.92). The total score between age groups for mean score of general health status is (1.89 ± 0.87). The nearest value to 1, consider the excellent the general health status.

Table 1. General Health Status between Age Group

Age group	N	Mean	Std. Deviation
Adolescents	21	1.86	.854
Young adults	16	1.94	.929
Total	37	1.89	.875

Psychological Well-Being (PWB) Scale

Table 2 showed the mean (M) and standard deviation (SD) for the score of psychological well-being scale according to their age groups. The mean indicated that adolescents scored psychological well-being scale more than young adults' group. Mean score for adolescents are (42.86 ± 12.43) and young adults (42.25 ± 10.76), and the total between age groups for mean score of psychological well-being are (42.59 ± 11.59).

Table 2. Psychological Well-Being between Age Group

Age group	N	Mean	Std. Deviation
Adolescents	21	42.86	12.43
Young adults	16	42.25	10.76
Total	37	42.59	11.59

Inferential Statistics

Mann-Whitney U test has been tested for mean comparison in General Health Status score among age groups. It showed there is no significant difference (p-value 0.846) and null hypothesis retained (see Table 3).

Table 3. Mean Comparison in General Health Status Score among Age Groups

	Total Score Psychological Well-Being
Exact Sig. [2*(1-tailed Sign.)]	$.868^b$

According to table 4, Mann-Whitney U Test has been conducted to determine whether there are significant differences between Psychological-Well Being mean of age groups. It was found the exact significance has no significant value (p-value 0.596), null hypothesis retained.

Table 4. Mean Comparison in Psychological-Well Being Score among Age Groups

	Total Score Psychological Well-Being
Exact Sig. [2*(1-tailed Sign.)]	$.596^b$

DISCUSSION

This study was set out with the purpose of identifying the effect of eSports participation on psychological well-being and general health among two age groups. The mean value of 1.89, showed that the average of adolescents and young adults rated their general health status as excellent and very good. These results indicated that eSports participation was not influencing their general health status. This result was in line with Rudolf et al., (2020) that revealed 95% of their sample rated good to

excellent as their self-reported health status. When the mean of general health status between those two age groups compared, adolescents (1.86 ± 0.854) rated their general health status as more excellent than young adults (1.94 ± 0.929) hence the nearest value to 1, consider the excellent the general health status.

Results showed that the participation in eSports does not negatively affect the psychological well-being of the respondents since the mean of overall psychological well-being scale was 42.59 which is nearly to a maximum value of 56. This phenomenon also was explained by Barr & Copeland-Stewart (2021) which conducted a study that found that the majority of the samples that fell into the 16–24 age range played video games as a medium for escape and stress relief. Previous study also stated that video games are popular among adolescents as a tool to help them relieve stress, feel more relaxed and relieve boredom (Pine et al., 2020).

In addition, this study found that adolescents scored higher on the psychological well-being scale than young adults. With a high score represents a person with many psychological resources and strengths (Diener et al., 2009), adolescents stand out more than young adults. These underlying mechanisms may be explained by a study mentioned that adults were associated with intolerance of uncertainty that related with worry and anxiety which individuals with high levels of intolerance of uncertainty perceive uncertainty about their future (Wright et al., 2017).

RECOMMENDATION

Overall, the results of this research reveal that the health and psychological well-being among the eSport participant are not affected because of playing video games as their eSports. However, considering the emerging popularity of eSports and increasing digital platforms nowadays, undoubtedly bringing even more sedentary life. Future research should consider the amount of playing time (hours) per day among eSports professional players that have a special schedule of training in order to measure the effects of eSports participation on psychological well-being more precisely. Furthermore, it is recommended to focus on specific health status (e.g., physical and mental health) for a better understanding of the underlying phenomenon among eSports participants.

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