

Youth Awareness: A Survey on Mobile Gaming Addiction Concerning Physical Health Performance on Young Adults in Malaysia

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Abstract

Mobile gaming has certainly become popular amongst young adults these days especially with the popularity of esports and mobile gaming communities available online recently. Previous studies have highlighted gaming addiction tendencies and mental health issues. However, there were other concerning issues caused by mobile gaming addiction that affects young adults in physical health such as bad posture, obesity, visual impairment, muscular weaknesses, and more. Thus, this study aimed to explore how Malaysian young adults' level of awareness on mobile gaming addiction could affect their physical health performance. Quantitative study method was conducted on Malaysian young adults with the sample of 80 selected through convenience sampling. A questionnaire constructed from multiple past researches to obtain data for the study had helped generate the perfect correlation scores and regression values that indicates the relationship between the research variables of analysis. The result showed perfect correlation value for all variables of analysis. The study also generated the highest regression value for research question 1 at 83% while research questions 2 and 3 were found to have weaker regression value. The significance of this study produces results on whether young adults' awareness regarding physical health had improved and increased the knowledge on adverse health effects related to prolonged mobile gaming. Moreover, studies related to physical health regarding mobile gaming are beneficial for the future generation to prevent mobile gaming addiction.

Keywords: *Mobile Gaming Addiction; Young Adults; Physical Health; Sleep Health; Effects of Prolonged Gaming; Health Performance*

1.0 Introduction

Malaysia is still lacking research on factors involving the impact of youth health [1]. Studies on youth health were mostly focused on limited demographic, specific illness, or age groups. This implies that research on youth health should be explored even more. The level of health among the youth in Malaysia was moderate at 65.8% [2]. Furthermore, Malaysian Communications and Multimedia Commission (MCMC) [3] reported that the adoption of smartphone ownership grew higher amongst young adults especially for those with higher internet access. This means that there was a significant need for youth health behaviour to improve for the better. Therefore, raising awareness on health concerns would certainly be crucial to optimum health performances. Online mobile gaming activities offer a system of goals and rewards where it gives players personal satisfaction and motivates them to

play or use the application in the long-term [4]. Malaysian youth spend more time engaging with mobile gaming applications through prolonged mobile device usage. These prolonged or extended usage however induces negative physical health symptoms mostly related to sedentary behaviour, optical problems, obesity, and musculoskeletal issues in young adults [5]. Koipysheva [6] stated that physical health can be defined as a normal functioning body at all levels to ensure survival and reproduction of an individual with the absence of diseases or painful conditions. Physical health can also be determined as the physical preparedness in a person's life that undergoes physical development due to external environment or activity [7].

Optimum health is known as the status of physical, mental, and social comfort with the absence of illness [8]. It is highly important for young adults to have an awareness in reaching optimum health through healthy physical activities for their future. If young adults are more aware of their health conditions and the negative mobile gaming habits that they engage in daily, it would alternately change their perception on the importance of achieving optimum health. This is why it is necessary to educate young adults on the negative side effects of prolonged mobile gaming and how it has detrimental effects on their physical health performance. The latest population health survey by the Institute for Public Health National Health and Morbidity Survey (NHMS) [9] reports that 25.1% of Malaysians are physically inactive. Another study indicates that the majority of Malaysian youth spend their time excessively with mobile device usage which could influence their self-control against addictive gaming tendencies [10]. These studies show why physical health in Malaysia needs to be improved through awareness to combat mobile device addiction. Being physically active would help Malaysian youth to improve their lifestyle, attain musculoskeletal fitness, prevent diseases, and achieve optimal body fat levels [11]. According to Keadle, Conroy, Buman, Dunstan and Matthews [12], it can also improve health for active and physically fit people by reducing their sedentary behaviour. Physical activity is highly beneficial especially to youths because it can influence positive mental development and wellbeing as well as lowering their depression and anxiety levels [13]. Thus, improving young adults' quality of life.

Meanwhile, mobile gaming addiction is defined as the maladaptive and continuous pattern of mobile game playing behaviour that deteriorates physical health, affects relationships, and causes uncontrolled spending [14]. As access to mobile devices and ownership grew, young adults were able to engage early and longer in mobile gaming throughout their life. This raise concerns on excessive mobile gaming that could turn into addiction [15]. According to 42 Matters Statistics [16], mobile games have an average of 77.24 thousand downloads in Malaysia. Amongst the topmost played mobile games in Malaysia that have garner a huge number of players are Player Unknown's Battlegrounds (PUBG) Mobile, Mobile Legends: Bang Bang, Call of Duty (CoD), Garena Free Fire, Pokémon GO, Clash of Clans and Candy Crush Saga [17]. Mobile games have gathered as many as 2.4 million Malaysians to become involved with mobile gaming through esports enthusiasts and raised Malaysia to be one of the fastest growing nations in esports [18]. In an online survey by Hirschmann [19], 42% of Malaysian youths admitted that they play mobile games daily. The impact of excessive mobile device usage causes problems on physical health such as migraines, optical problems, and musculoskeletal pain and discomfort. The concerns on physical health were also frequently mentioned in studies relating to tv viewing, mobile device usage, video games playing, and obesity [20].

Additionally, the interactive nature of mobile media and applications causes damaging effects on sleep health [21]. The mobile media also identifies potential health risks particularly in relation to musculoskeletal pain and discomfort from using smartphones for long periods of time [22]. Other than that, blue light emitted from smartphones disrupts melatonin secretion which affects sleep quality [23]. The success of a country depends on the physical health of its younger generations as it would help them face their future [24].

This issue is important to address because mobile gaming addiction could cause adverse effects on the player's physical health especially in younger people. This is especially true in the age of technological advancement where esports are gaining popularity and started to become a part of young adults' life. These spaces must become a safe space where they could interact and develop without experiencing the negative side effects. Moreover, playing games excessively can negatively affect young adults' emotional development and their academic performance. Young adults with mobile gaming addiction are more inclined to show anti-social behaviour and avoid socializing in real life as they lack the interpersonal experience. Therefore, the research on this issue would help us understand how mobile gaming addiction may hinder youth physical health development and would provide awareness that mobile gaming addiction poses to their physical health conditions.

2.0 Literature Review

Physical health is the normal conditions of an individual's body at all levels which promotes balance between the body's condition, adaptability, functions and free from any illness [6]. This is especially important in young adults because their physical health determines their interpersonal relationship, experiences, and their quality of life as whole. Physical health is very important to maintain as it helps an individual perform their best and have great quality of life.

2.1 Physical Health and Mobile Gaming Addiction

Over the years, many studies have linked physical health deterioration with the prolonged usage of mobile devices. Undeniably, the easy access to mobile devices had also made it easier for mobile gaming addiction to happen. Players were heavily engaged with the games that they started to prolong the use of mobile devices, and this started to affect their physical health conditions. Smartphone usage has been reported to cause increased neck and back pain [25], visual impairments [26] and migraines [27]. According to Mustafaoglu [25], longer usage of mobile phones than 2 hours every day was related to reported increase in lower back, neck, and shoulder pain among youth. A study by Howie, Coenen, Campbell, Ranelli, and Straker [28] found that young people had greater mean head, trunk, and upper arm angles while using a mobile device compared to watching television.

Excessive use of mobile devices was also found to be commonly associated with optical problems in young adults. Another study also associates prolonged device use such as smartphones and tablets with increased obesity risk due to lesser physical activity [29]. According to Martínez-Ramos, Beltran, Martín-Borràs, Lasaosa-Medina, Real, Trujillo, and Sedestactiv group [30], the decline in physical activity means that sedentary behaviour would create an energy imbalance that might lead to obesity. Excessive mobile gaming also significantly impacts sedentary behaviours in young adults. Mérelle [31] found that problematic gaming behaviour were related with greater sedentary behaviours of more than 2 hours in a day. In a study by Kamal and Wok [32], it was found that 56.2% of Malaysian youth spend more than 3 hours daily sitting to play games online. This means that Malaysian young adults engage daily and spend more of their time online which also means that they are prone to mobile gaming addiction and the negative side effects on their physical health, mental health, interpersonal relationships, and quality of life.

2.2 Physical Health and Sleep Health Comparison

Most people are aware that mobile device usage affects their sleep quality, but they were not really concerned about it. Physical health concerns the effects that mobile gaming addiction causes physically on an individual while sleep health concerns sleep duration, sleep quality, and sleep latency. According to Hisler, Twenge, and Krizan [33], sleep health was a term that was infrequently mentioned and was undefined even when it is used. In terms of sleep health, studies showed that night-time use of mobile devices such as smartphones and tablets was causing shorter sleep duration [33]. Moreover, mobile gaming addiction was also said to be closely related with sleep disruptions [34].

Finally, there was a substantial relation between bedtime, smartphone usage, and increased latency in sleep time [35]. Sleep health should be studied more to help promote healthy goals in health improvements plans and activities. Studies on sleep health provide a benchmark of healthy sleep quality for patients, healthcare professionals and administrators at the individual, group, and population level to refer to. Sleep health is also important for an individual's well-being and promoting it would improve the health of individuals and the entire population [36].

2.3 Mobile Gaming Addiction

Mobile gaming addiction is the constant and repetitive form of mobile game playing actions that could affect physical health, mental health, spending behaviour, interpersonal issues, and many others [14]. Majority of young adults turn to mobile gaming to cope with stress or to spend their leisure time with friends online. This behaviour however could turn into addiction if it is uncontrolled.

2.4 Effects of Mobile Gaming Addiction

The effect of mobile gaming addiction is not only limited to physical health and sleep health but could also heavily affect the mental wellbeing of players and their social interactions with other people. Amongst the effects are low social competence [10]. Young adults face social difficulty when engaging with certain situations as they are slower to adapt or reflect on their social mistakes. Next, an individual's well-being and self-esteem would be highly impacted as most players would prefer to stay online and avoid physical contact with other people [10]. Moreover, players would also experience low life satisfaction [37] as their overall quality of life would be affected. Other than that, gaming addiction was frequently associated to be the cause of lower academic performance [38] where players who spend less time playing mobile games perform better academically than players who played more games. Thus, these effects further highlight the importance to tackle the issue and potential effects that mobile gaming addiction might cause towards young adults.

2.5 Conceptual Framework

The conceptual framework demonstrates the variables throughout the research timeframe where researchers sought to map how the variables could relate to one another and achieve the objective of the research. Below is Figure 1 on conceptual framework on youth awareness of mobile gaming addiction concerning physical health performance adapted from Masud, Ahmed, Rahman, and Akhtar [39] for the current study.

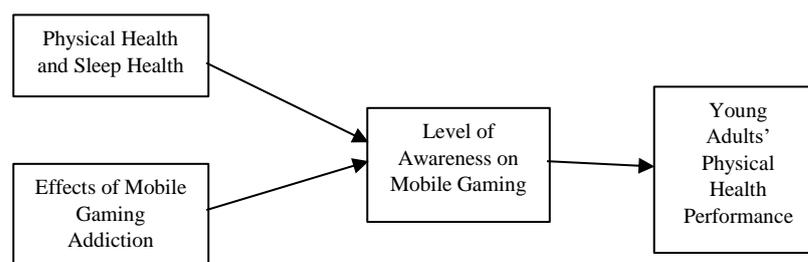


Figure 1 Conceptual Framework on Youth Awareness of Mobile Gaming Addiction concerning Physical Health Performance.

2.6 Research Objectives

RO 1: To describe physical health, sleep health and the effects that mobile gaming addiction pose concerning young adults' awareness of mobile gaming addiction.

RO 2: To predict the level of awareness that young adults had on mobile gaming addiction.

RO 3: To explain the way young adults' level of awareness on mobile gaming addiction could affect their physical health performance.

2.7 Research Questions

RQ1: What is physical health, sleep health and the effects that mobile gaming addiction pose concerning young adults' awareness of mobile gaming addiction?

RQ2: What is the level of awareness that young adults had on mobile gaming addiction?

RQ3: How young adult's level of awareness on mobile gaming addiction could affect their physical health performance?

2.8 Significance of the Study

The research would be important to policymakers as it would help them evaluate the type of suitable policies that should be implemented. For instance, self-regulation policy can be done voluntarily by companies in the game industry. It would help reduce the number of addicted gamers and signifies the good intention that regulatory authorities have towards the young players. Selective shutdown policy where players can request to block gaming access during certain hours like the one implied in South Korea or in-game warning messages that pop up during gaming sessions should be executed in every gaming company's policy [40]. In addition, the policies and regulations related to the gaming industry would improve for the better.

The Ministry of Education (MOE) and the Ministry of Health (MOH) should work together to solve this issue as it might lead to adverse physical and mental health problems if it is not tackled properly. They could implement countermeasures such as introducing scheduled system shutdowns where game companies would shut down or block access to their servers between certain periods in a week. This method was widely used in China, Thailand, South Korea, and Vietnam to combat gaming addiction by controlling time spent on online games [40]. This could also be implemented to video viewing applications and social media. Moreover, counselling sessions for addicted gamers should be made readily accessible. As a proactive solution, this is a form of treatment that should be provided to addicted gamers, and it has been implemented across western countries such as Germany and the United States of America [40]. Therefore, both ministries could gain further insights on the issue from this research to better evaluate the situation at hand and solve it wisely.

Moreover, the research would benefit future research as it would help researchers gauge the level of awareness that most young adults have towards their physical health and whether they are aware or not of the effects that mobile gaming addiction pose towards their physical health performance. The study would help future researchers to formulate better solutions as the newness of the issue needs further attention and more research. Király [40] stated that applying interconnected and thorough measures are far better than applying several solutions that might flunk. This research would help future research to plan better prevention programs to tackle the problem at an early stage with more positive outcome.

2.9 Theory Guiding the Study

According to Silvia and Duval [41] self-awareness theory, self-awareness exists between the ideal self and actual self. Previous studies found that self-awareness plays a role in refining people's self-conception and representing themselves to others which then works as a basis for ensuing action [42]. According to Ninivaggi [43], interactions with other people arouse indirect emotional reactions and self-reflection helps to bring these feelings into refined awareness. Additionally, the influence of

self-awareness is a defence mechanism that positively impacts self-regulation, affective satisfaction, and mindfulness on an individual's life experience [44].

Moreover, the concept of self-awareness is beneficial in improving people's perceptions of physical health behaviours as the general self-regulatory maintenance of health goals [45]. The researcher chose this theory because it aligns with the objective of the study which was to predict the level of awareness that young adults had on mobile gaming addiction which in turn could affect their physical health performance. The theory focuses on awareness, and it is suitable because the knowledge that the research respondents learn throughout the research process will improve their awareness on physical health particularly when they are engaging with prolonged mobile gaming activities. In turn, they would be able to evaluate their behaviour based on the knowledge that they have gathered and avoid addiction by reassessing themselves in the process.

3.0 Methodology

The questionnaire consists of five sections, Section A asks about the demographics of the research respondents, Section B questions mobile gaming addiction impact on physical health and sleep health, Section C discusses more about the effects of mobile gaming addiction, Section D raises questions on the level of awareness on mobile gaming addiction and Section E discusses the awareness on mobile gaming addiction towards young adults' physical health performance. The construction of the questionnaire was adapted from previous research. Furthermore, this research questionnaire was distributed via online Google forms with five-point Likert rating scales ranging from strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree.

TABLE 1

Sources for Research Questionnaire

Section A: Demographic	Sources
1. Gender: Male; Female	
2. Age: 18 to 21 years old; 22 to 24 years old; 25 to 28 years old	[46]
3. Occupation: Students; Working; Unemployed	
4. Level of education: None; Primary; Secondary; Bachelors; Masters; PhD	
5. Average time spent on mobile gaming: Less than 1 hour; 2 to 3 hours daily; 4 to 5 hours daily; More than 6 hours daily	
Section B: Mobile Gaming Addiction Impact on Physical Health and Sleep Health	
1. In general, do you agree or disagree that your health is in great condition?	
2. Compared to one year ago, is your health now much better?	
3. Does your health now limit your physical activities?	[47]
4. During the past 4 weeks, did pain interfere with your daily life?	
5. During the past 4 weeks, has your physical health interfered with your social activities with family, friends, neighbours, or groups?	[48]
6. Have you had bodily pain during the past 4 weeks?	
7. Are you satisfied with your sleep?	
8. Are you able to stay awake all day without dozing?	
9. Are you asleep during 2:00 a.m. until 4:00 a.m.?	
10. Do you spend less than 30 minutes awake at night?	
11. Do you sleep between 6 and 8 hours per day?	

TABLE 1

Sources for Research Questionnaire

Section C: Effects of Mobile Gaming Addiction	
1. Have you been feeling perfectly well and in good health?	
2. Have you been able to enjoy your normal daily activities?	
3. Have you felt constantly under strain?	
4. Have you been getting any pains in your head?	[49]
5. Have you had trouble with your eyesight?	
6. Have you had issues with your muscle and bone conditions?	
7. Have you recently lost much sleep?	
8. Have you had difficulty staying asleep longer?	
9. Have you felt that life is entirely hopeless and unsatisfying?	
10. Have you felt that life is not worth living?	
Section D: Level of Awareness on Mobile Gaming Addiction	
1. Have you thought all day long about playing games?	
2. Have you played longer than intended?	[50]
3. Have you played games to forget about real life?	
4. Have others unsuccessfully tried to reduce your time spent on games?	
5. Have you felt upset when you were unable to play?	
6. Have you had arguments with family and friends over your time spent on games?	
7. Have you neglected important activities to play games?	
Section E: Awareness on Mobile Gaming Addiction towards Young Adults Physical Health Performance	
1. It is reassuring to know about mobile gaming addiction towards my personal health-related condition.	
2. It is very helpful to see health-related information on mobile gaming addiction.	
3. The information on mobile gaming addiction is very helpful for me to make health-related decisions.	
4. The information on mobile gaming addiction encourages me to take actions that could be beneficial to my health.	[51]
5. I can easily understand the information on mobile gaming addiction.	
6. I feel more inclined to look after myself after knowing about mobile gaming addiction.	
7. I have learnt something new about mobile gaming addiction.	
8. The information on mobile gaming addiction prepares me for what might happen to my health.	
9. I value the advice given about mobile gaming addiction.	
10. Awareness of mobile gaming addiction gives me confidence that I am able to manage my health.	
11. Awareness on mobile gaming addiction helps me to have a better understanding of my personal health.	
12. Awareness of mobile gaming addiction encourages me to play a more active role in my healthcare.	

3.1 Population and Sample Size

The sample respondents for this study are Malaysian young adults who are actively involved in mobile gaming behaviour. Young adults were chosen because they represent 69.7% which was 22.8 million of the Malaysian citizens [52]. This proves that young adults make up most of the population in Malaysia. This study is adapting the quantitative research method in gathering sufficient respondents. To calculate the sample size of this research, it is important to note that according to the Department of Statistics Malaysia [53], Selangor had an estimated population of 6.530 million people. Meanwhile, the population of young adults in Selangor was 46.7% which was 1.703 million people [54]. The sampling method for this study is probability sampling and a collective number of 80 respondents had been targeted for this research.

This study utilizes the convenience sampling method. This study method was chosen as it facilitates the research in acquiring the number of required respondents in a shorter time frame. The research had faced limitations in terms of gathering more respondents due to the current conditions of Covid-19 in Malaysia. The researcher had limited choices and decided to rely on online communications and social media to gather the respondents. Furthermore, the researcher faced time constraints and limited access to reliable data as it was really difficult for researcher to find out the exact population of young adults in the most recent year. Due to this limited access of data, the researcher was not able to further specify the scope of the research at district or city level but instead had to rely on the statistics of the state level only. In addition, Selangor was chosen as the target area because it was the centre of attention for young adults. The state had multiple educational institutions, various public infrastructure such as football fields and recreational parks, and plenty of entertainment spots like shopping malls, retail shops, and food and beverages shops.

4.0 Results and Discussion

4.1 Demographic Summary

TABLE 2

Demographic Profile of Respondents

Profile Characteristics	Frequency	Percentage
Gender		
Male	35	43.8
Female	45	56.3
Age		
18 to 21 years old	23	28.7
22 to 24 years old	38	47.5
25 to 28 years old	19	23.8
Occupation		
Students	30	37.5
Working	36	45.0
Unemployed	14	17.5
Level of Education		
None	3	3.8
Primary / Secondary	5	6.3
Diploma	19	23.8
Bachelors	36	45.0
Masters	17	21.3
Average Time Spent on Mobile Gaming in A Day		
Less than 1 hour	1	1.3
2 to 3 hours daily	16	20.0
4 to 5 hours daily	27	33.8
More than 6 hours daily	36	45.0

Table 2 shows the frequency and percentage of each profile question in the demographic section. It is worth to note that in terms of gender distribution, the percentage of female respondents reaches 56.3% and most of the respondents are from the age group of 22 to 24 years old at 47.5% which explains why the majority of the respondents are 45% workers and 37.5% are students. Similarly, most of the respondents are from Bachelors at 45% and Diploma at 23.8% level of education. Furthermore, most respondents who rate at 45% spends more than 6 hours daily playing games followed by 33.8% that spends 4 to 5 hours daily.

4.2 Analysis

Findings of the current research found in section B that mobile gaming addiction did pose various impacts on physical health and sleep health. Most respondents agree that their health was not in a good shape due to mobile gaming activities. They also agree that their sleep health is affected through their sleep quality and duration. Meanwhile, section C discusses the effects of mobile gaming addiction and young adults reported in the study that they do experience most of these effects. Moreover, section D question about the level of awareness on mobile gaming addiction had helped respondents identify their awareness on how addicted and frequent they were when engaging in mobile gaming. The respondents also stress that mobile gaming activities do affect their relationships with other people. Finally, section E discusses the awareness of mobile gaming addiction towards young adult's physical health performance. This is where respondents were able to evaluate their self-awareness on how mobile gaming addiction had affected their physical health performance. Excessive mobile gaming done frequently over long periods of time can cause physical strain on gamers' health. Young adults who play mobile games for prolonged periods can be affected by physical health problems such as stiffness, aches, pain, and numbness. Some players tend to engage in longer gaming periods because they seek personal satisfaction and gaming rewards that the application offers. This further causes them to engage in unhealthy sedentary behaviour and reduces their physical activity. If this issue is not addressed properly, it would not only cause mobile gaming addiction but also pose detrimental effects on player's physical health, activities, relationships, and quality of life.

To answer the research questions, the research seeks to understand youth awareness on mobile gaming addiction concerning physical health performance on young adults in Malaysia. Below is Table 3 of variable analysis summary for the research results.

TABLE 3

Variable Analysis Summary

Research Question and Variables of Analysis	Correlation (Sig.)	Regression (R Square)
RQ1: What is physical health, sleep health and the effects that mobile gaming addiction pose concerning young adults' awareness of mobile gaming addiction? (B-D)	0.010	83%
RQ2: What is the level of awareness that young adults had on mobile gaming addiction? (C-D)	0.000	14.8%
RQ3: How young adult's level of awareness on mobile gaming addiction could affect their physical health performance? (D-E)	0.253	17%

The correlation value for all variables of analysis was perfect correlation. Section B to D was significant, C to D was significant and the correlation result between D to E was also significant. The result proves that there was a significant relationship between these variables in terms of cause and effect. The analysis summary above also provides that research question 1 has the highest regression value at 83% while research question 2 and research question 3 does have correlation to one another but has weaker regression value. This result reflects the relationship between each variable that was proposed in the current study.

4.3 Limitations

The limitations of the current study were due to the objective of the study which was to describe and not to prove facts using scientific data. Other than that, the findings of the research cannot be used to prove the fact that mobile games do deteriorate health and cause addiction due to the insufficient number of 80 respondents in the study to represent a specific population. Amongst other limitations that had been faced by the researcher during the research was mainly time constraints to complete the research. The research also faced problems in acquiring the number of required respondents in a shorter timeframe. This research had limitations in terms of gathering more research respondents due to the current conditions of Covid-19 in Malaysia. The researcher had to rely solely on online communications to gather respondents for the research. Furthermore, the researcher faced time constraints and limited access to data as it was difficult for the researcher to obtain the exact data regarding the population of young adults in the most recent year. Due to this limited access of data, the researcher was not able to further specify the scope of the research at district or city level but instead had to rely on the statistics of the state level. The researcher had time constraints, difficulty in reaching adequate respondents, online communication barriers, and limited data access. Despite these limitations however, in the end, the research had proceeded in great care. The strength of this study was that it seeks to explain the way young adults' level of awareness on mobile gaming addiction could affect their physical health performance.

5.0 Conclusion

This research was conducted to predict youth awareness on mobile gaming addiction concerning young adults' physical health performance in Malaysia. The main objective of the study was to describe physical health, sleep health and the effects that mobile gaming addiction pose concerning young adults' awareness of mobile gaming addiction, predict the level of awareness that young adults had on mobile gaming addiction and explain the way young adults' level of awareness on mobile gaming addiction could affect their physical health performance. The data that was collected and analysed through SPSS software and correlation test that was conducted had suggested that knowledge on physical health and sleep health does affect the level of awareness on mobile gaming addiction and young adults' health performance. It was also concluded that mobile gaming addiction affects the level of awareness that young adults had and thus, this awareness was inflicted on their physical health performance.

Amongst the recommendation to enrich this research is by performing research with more precise scientific methods concerning mobile gaming addiction. A stronger supporting scientific study would be better for this research because mobile gaming addiction is a type of behavioural addiction that requires extensive study to understand better. Other than that, it would also ease the research process even more if related research topics can be found and accessed easily. The second recommendation for this research was by performing it among a wider scope of respondents. The scope of this research can be extended even further to other age groups aside from young adults. The vast results from more respondents could lead to the research to be more reliable and valid. This will be beneficial in seeking further information regarding mobile gaming addiction as a behavioural issue.

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