Information Management and Business Review (ISSN 2220-3796)
Vol. 18, No. 4, pp. 144-153, 2026

The Engagement of University Students Towards Healthy E-Sports Activities

*Masrur Mohd Khir[1], Johny Pramanda Putra[2], Abdul Hamid Abdul Halim[1], Nor Lela Ahmad[1], Alwan Wagiman[3], Abdullah Adnan Mohamed[4]
[1]Faculty of Business & Management, Universiti Teknologi MARA, Malaysia
[2]Faculty of Economics and Business, Universitas Warmadewa, Bali, Indonesia
[3]Human Performance Improvement Consultant, Selangor, Malaysia
[4]Centre for Modern Languages, Universiti Malaysia Pahang Al-Sultan Abdullah, Malaysia
Email: *masrur@uitm.edu.my, johnypramanda@warmadewa.ac.id, abdulh2949@uitm.edu.my, norlela2805@uitm.edu.my, hpiconsultants@yahoo.com, adnan@umpsa.edu.my
Corresponding Author: Dr Masrur Mohd Khir

Abstract: Electronic sports, popularly known as esports, have grown in popularity among the general public, especially university students. It is expected that excessive participation in esports activities has negative impacts not only on students' health but also on their quality of life. Despite increasing research interest in esports, there is a knowledge gap in addressing the health problems of the esports lifestyle. This research investigates the relationship between physical condition, physiological factors, social relations, environment, spirituality, and healthy esports engagement. This article proposes a framework for a holistic model to assess the features of a balanced quality of life, such as a healthy lifestyle for esports players. The framework includes two techniques from health and sports literature. A survey questionnaire to esports players consisting of 150 university students was established. Pearson Correlation Coefficient and Regression Analysis were conducted to examine the independent variables. The findings showed that two of the variables (physical condition and social relations) were significant, while the others (physiological, environment and spiritual) were not significant with healthy esports engagement. This study concludes that the framework can assist esports athletes, particularly university and college students, to maintain a balanced quality of life while engaging in esports activities.

Keywords: *Electronic Sports, Engagement, Healthy Lifestyle, Esports Activities, University Students*

1. Introduction and Background

Esports have grown in popularity among students in universities, especially during the Covid-19 pandemic outbreak. The lockdown period and the establishment of online distance learning, or ODL, are new things that students must adjust to. Unfortunately, these students were often constantly distracted by gadgets because everyone, including the students, has been obliged to stay at home and even study or work from there. During the ongoing period of lockdown and social distancing, many of us have observed a significant increase in the use of entertainment games (both analog and digital games) at home to pass the time and deal with stress (Kriz, 2020). Since there are various factors, they can still socialize and find enjoyment through their technological devices like smartphones and laptops. One sort of entertainment where people can play on their phones is electronic sports or esports. Previous studies have shown that gaming disorder is generally characterized by not being able to control gaming, with increased priority given to gaming when compared to the daily routine, and the presence of negative consequences (Palanichamy et al., 2020). It is expected that esports progressed with the establishment of the Internet as competitive gaming became increasingly accessible in households and across college campuses (Marsh et al., 2020).

Involvement in esports as a university student may be a fun way to release tension, but it may have positive or negative effects. Online gaming engagement has increased since the pandemic outbreak, but for students who also play online games, some may have been involved or playing since the beginning of their campus life or even before the lockdown period. Accordingly, it seems that during the pandemic there has been a significant increase in online gaming and various online activities, such as e-sports watching and live streaming (Giardina et al., 2021). These online games or electronic games have attracted almost all groups, from children to teenagers. This phenomenon might be driven by the pandemic, during which almost all students in schools or universities have gadgets and other IT facilities such as laptops, tablets, and smartphones. In addition, playing online games also allows students to interact with other players or interact with friends on online platforms; esports provide bonding opportunities. Multiplayer games provide an opportunity to stay in touch with friends

and still share in something together (Ellis et al., 2020). For example, the game Mobile Legends: Bang-Bang (MLBB) allows players to interact with each other and players can also communicate through in-game chat.

Furthermore, these online games or esports games can make an individual addicted to playing for a long period of time. This is also worrying because there are studies that show students spend a lot of time playing online games. Because of that, it can also affect the physiology of students, including lack of sleep, stress, and anxiety. Since the pandemic as well, many students have experienced stress and anxiety. This may indicate that because students had to isolate themselves to avoid infection, their desire for social connectedness was not met, resulting in more symptoms of depression (Debowska et al., 2022). Anxiety can occur when students worry about losing a game or points in a game. Then, extreme addiction will drive a person to stay up at night to play games. Lack of sleep is not good for students because it will lead to negative consequences such as staying awake at night, sleepiness during class, and even not attending class due to lack of sleep. This will then contribute to anxiety. This will also affect the students' academics. Based on all these consequences, this study will investigate the effect of healthy esports engagement in terms of physical condition, physiological, social relations, environment and spiritual well-being among university students located at Puncak Alam Branch Campus of Universiti Teknologi MARA, Malaysia.

Problem Statement

This study explores why students are so passionate about playing esports for long hours. Passion is defined as an individual's strong tendency to engage in an activity that he or she enjoys, an activity upon which the person places importance and in which he or she invests time and energy (García-Lanzo and Chamarro, 2018). Addiction to playing esports can be a factor that drives students to spend long hours gaming. Esports can be fun and a platform where students can interact with each other with their friends or outsiders who share the same interests. This leads students to a strong sense of passion and dedication. The Dualistic Model of Passion (DMP) provides a motivational perspective on passion and describes two kinds of passions which are harmonious passion (HP) and obsessive passion (OP) (Formosa et al, 2020). The passion of students will have an impact on health, mental, or social conditions.

According to Hellstrom et al. (2015), depressive musculoskeletal symptoms are associated with the addictive effects of excessive online gaming among university students. Very few studies have been done on the comprehensive framework of esports in sustaining quality of life, especially among university students. Most studies have focused on the adoption of online gaming using existing specific frameworks related to health effects such as those by Jenny et al. (2017). This includes gender and race equality, reduced societal issues, and improved well-being.

Besides that, Inagaki (2018) stated that social connection, the subjectively pleasurable experience of feeling close and connected to others, is important for well-being and continued social bonding. Social relationships can be thought of as an individual's self-perception of the closeness of interpersonal relationships with other people (Shan et al., 2023). Compared to the theoretical importance of social relationships for well-being, less research has focused on the underlying neurobiological mechanisms that support social bonding in close relationships. Therefore, this study was also conducted to examine the relationship between social relationships and healthy esports engagement.

Other than that, this study also investigates whether environmental factors contribute to healthy esports engagement among university students. External and internal social environments include an individual's exposure to media, nationality, and culture (Reich, Black, and Foliaki, 2018). The environment can sometimes motivate students to be involved with esports. The influence of peers on a student's gaming habits and social media exposure can also influence students to engage with esports. Such video game live streaming by professional gamers and tournaments of esports events aired live on social media accounts can attract students to play online games as well. Students will stay up late to join the live streaming or play online games with their friends because the streamers usually do their live streaming of video games late at night. Streamers can make and share videos in real-time as they play online games, while simultaneously communicating with their game-specific audience (Li et al., 2020). Social media is also a platform where students can get information about upcoming esports events and actively participate in competitions.

2. Literature Review

Esports is electronic gaming, also referred to as programming or competitive video gaming (DiFrancisco-Donoghue et al., 2019). This study aims to contribute to the body of knowledge of esports engagement among university students. Previous studies stated that esports is one of the fastest-growing sports on college campuses, as students are both spectators and players (Delello et al., 2021). Students were forced to stay at home and do online distance learning (ODL) during the pandemic. This led to stress, depression, or anxiety. Since esports are accessible on their devices, the number of esports users has risen rapidly during Covid-19, and the majority of them are students. Although trapped in a lockdown, they can still reach out to their friends and have fun through esports using online platforms. Esports can also be a way to relieve tension when students are playing and could help them to boost their mood or vice versa if they lose the game and gain more stress from it.

Healthy Esports Engagement: Referring to Lagunas (2019), despite the rapid growth and popularity of esports, it is not clear whether the pursuit is good or bad for gamers' health. Esports competitors are more likely to develop several chronic diseases and die from any cause because of prolonged periods of inactivity and poor diets. The public health effects of the esports phenomenon are now being studied in health research, which paints a dismal image of this megatrend. However, it is advised to get involved in this phenomenon and have a constructive impact on it rather than only noting the negative public health consequences of it (Hwu, 2022). Esports offers a setting for widely spreading treatments, has a lot of promise for increasing physical activity, and gives new approaches to reach a frequently ignored demographic. This paper discusses the potential of the esports phenomenon to promote physical activity, health, and well-being in gamers and esports players, as well as the strategic and preventive solutions to mitigate the potential negative health effects of esports, as well as the use of esports technology (streams, media platforms, exergames, etc.) as an innovative tool for health promotion, specifically targeting gamers and esports players with engaging and interactive interventions. This is to promote methodical scientific study in order to create evidence-based recommendations and intervention strategies involving regular physical exercise, a healthy diet, and good sleep hygiene for esports. In order to properly integrate esports with gaming, it is important to promote public health strategies.

Physical Condition: A person with good physical condition is likely to have optimally functioning body systems. Someone's character and actions can have an impact on their physical condition. For instance, a person's lifestyle choices, genetic make-up, and prolonged online gaming can all have an impact on their physical condition (Sampson, 2023). This is not just because there are no diseases present. Healthy physical condition is also influenced by regular exercise, a well-balanced diet, and enough sleep.

The outcome suggested that excessive esports participation and its competitive nature contribute to both physical and mental issues. Eye tiredness, blurred vision, low back pain, tension headaches, hand and wrist pain, and bad posture when gaming are examples of physical problems. For esports athletes, living a balanced lifestyle can boost both overall health and gaming performance (Palanichamy et al., 2020). Numerous advantages of exercise can assist gamers in improving their physical and mental performance. Sport is generally defined as any physical activity that promotes sports performance at any level while also fostering or enhancing one's physical and mental well-being through ad hoc or planned involvement. The study demonstrates that high-level and professional esports competitors exercise as well, with those who are 18 years of age and older working out more than three times daily recommendations of 21 minutes of physical activity from the World Health Organization. Moreover, the static alignment of your body while standing or sitting is referred to as posture. Therefore, your posture while gaming is just how you hold your body. And most frequently, this is done while sitting. Risks of poor posture when gaming can impact one's physical condition. Lower back pain, neck pain, upper crossed syndrome, and other conditions are among the risks. Sitting incorrectly can put more force on the spine than 150% of one's own weight. Increased pressure on the spine discs and bones can cause early degeneration (such as arthritis or "spondylosis"), which could result in more serious health issues (Palanichamy et al., 2020).

Physiological: The current study compiled all previous empirical studies aiming to evaluate the physical and psychological health difficulties in esports and found that excessive participation in esports leads to social,

emotional, and psychological issues like depression and anger. The mental health of esports athletes is significantly influenced by gender and game types. Teenagers who have an internet gaming disorder are more likely to have anxiety, depression, and alexithymia. Depression manifests more frequently in adolescent girls with internet gaming problems than anxiety or alexithymia. Online multiplayer battle arena games have been demonstrated to control emotions, whereas massively multiplayer online role-playing games seem to be linked to behavioral and mood disorders (Bonnaire and Baptista, 2019). It seems more advisable to comprehend this phenomenon and take advantage of the opportunities it provides rather than only highlighting the negative side effects and public health consequences. Depressive and musculoskeletal symptoms are associated with the addictive effects of excessive online gaming among teenagers (Hellstrom et.al., 2015). Due to various stressors like the pressure to have exceptional mental and performance skills and excessive gaming, esports athletes are more likely to experience problems like burnout, depression, anxiety, addiction, and aggression in an elite and highly competitive environment (Palanichamy et al., 2020). On the other hand, taking part in esports has certain advantages for college students as well. For instance, Bavelier and Green (2019) study discovered that playing video games improved memory, attentiveness, and decision-making skills, among other things. Additionally, it has shown promise in enhancing multitasking, lowering impulsivity, and even counteracting some of the cognitive impacts of aging on the brain.

Social Relation: The competitive gaming business has recently recognized esports, which has sped up the development of its applications and rules by the regulatory bodies (Funk et al., 2018). The growing number of participants and viewers in esports is evidence of its growing popularity (Cunningham et al., 2018). Nevertheless, because of the media's interest in this issue, more and more public and private organizations are organizing esports tournaments (Cunningham et al., 2018; DiFrancisco-Donoghue et al., 2019). While money and profits have emerged as the primary drivers behind the growth of esports, this modern activity complements traditional competition by encouraging fairness, teamwork, enthusiasm, and a healthy lifestyle (Jenny et al., 2024). This includes racial and gender equality, a decline in societal problems, and enhanced wellbeing. The foundation of esports studies and the identification of the constructs or domains to be further explored require a functioning definition, notwithstanding the lack of consensus over the concept of esports.

Environment: In terms of the environment's involvement in esports, research indicates that the video game industry has a terrible impact on the environment. The annual energy consumption of US gaming consoles is estimated to be 34 terawatt hours, or nearly five million automobiles worth of CO2 emissions. Like other electronics, gaming consoles pose a variety of environmental risks, from the metals and plastics needed to make them to the electricity they use, which is derived from fossil fuels, to the difficulties in recycling the equipment once the next generation is quickly introduced and replaced (Asher, 2022). The development of the video games themselves follows. Thousands of people are employed to develop popular game franchises like Grand Theft Auto, Gran Turismo, Mobile Legends, and Call of Duty, and their big, multi-location offices leave a significant carbon footprint. There is a whole industry behind video games that is full of air travel, air-conditioned offices, and lengthy commutes, even if the games and the platform they are played on become ecologically friendly (Fletcher, 2021).

Spiritual: People have always enjoyed playing games. People first played games with stones and wooden objects, then with cards or moving pieces but in the modern era, video gaming refers to screen-based activities and virtual reality, and more young people are getting interested in esports. Older people may recall moving a tiny green dot across a flickering screen in what looked like tennis, but where the excitement was more about the wonder of technology that made it possible, or connecting a basic computer to a television for a digital version of 'Noughts and Crosses' (Christianity Enquiry Agency, 2020). The annoyance that arises is when there are video games that contain content that contradicts societal norms and religious values, such as violence, immoral or abusive language, elements of abuse and crime as well as religious confusion. Video games containing the mentioned elements are now in the charts of popular games such as Far Cry 6, Dying Light 2, Mortal Kombat 11, Grand Theft, The Punisher, Manhunt 2, Hatred, League of Legends, Players Unknown's Battleground (PUBG), Resident Evil Village and Back 4 Blood (Mohd. Noor, 2021).

Industry players, whether developers or video players, need to understand this legal position; both purify the content and game methods and, at the same time, highlight the values and promote ethics and morality. The development of content that contains elements of racism, religion, and insulting individuals also needs to be

avoided to ensure harmony in the industry. We certainly do not want to earn income in a way that is abominable and rebuked by religion (Mohd. Noor, 2021). Screening and guidance of video games should be made in the form of a special standard, classification, and rating categorization (classification of movies such as U, P13, 18SG, 18SX, 18PA, 18PL and so on) according to the type of content and target age level of players. Parents who do not know the content of the game can use this classification as a guide for monitoring what their children are playing.

Relationships between IV's and DV: Before cultivating an excessive esports industry, it is first important to describe the health-related issues such as physical condition, physiological health, social connection, and environment of esports engagement among university students.

According to Chan et al. (2022), increased stress, sleep problems, obesity and behavioral issues are a few of the frequently discovered negative health effects associated with esports and gaming. In a similar vein, playing video games is connected to sedentary behavior, which has been related to an increased risk of noncommunicable diseases (Harding and Noorbhai, 2021). The posture of esports players in the gaming chair, prolonged screen exposure, and hundreds of repetitive motions during gaming sessions are all contributing factors to the development of physical conditions associated with esports engagement among university students (Emara et al., 2020).

The esports industry has seen rapid growth over the past decade with additional opportunities for participants to compete in a competitive and relaxed environment. Darvin's investigation serves as one of the first to investigate the gaming experience of esports participants, with a specific focus on the presence of discrimination and hostility in the gaming environment for male and female competitors (Darvin et al., 2020). Therefore, it is important to examine the factors that may contribute to the lower proportion of women in the esports environment, as recent events have suggested that esports may be prone to incidents of hostility towards female participants (Desatoff and Wallenstein, 2019).

In terms of esports, spirituality encompasses important existential questions such as life meaning and purpose, the transcendent (the spiritual world/the Divine) and connectedness (Snodgrass, 2023), and yet it remains an often-neglected topic of conversation with healthcare clients (Hopia et al., 2018). This situation is compounded by the myriad of professional definitions and personal meanings around terms such as 'spirituality', 'religion ', and 'spiritual care' (Canda et al., 2010). Therefore, this study was conducted to find out the spiritual factors related to healthy esports engagement among university students.

3. Research Methodology

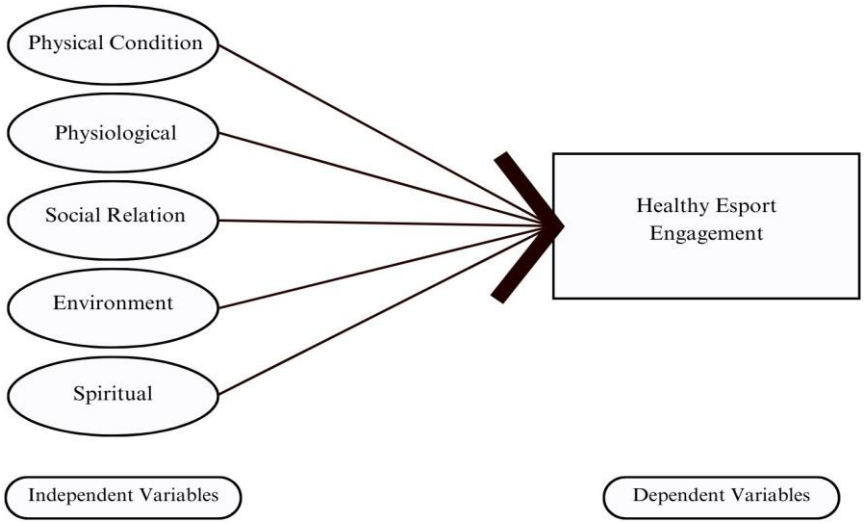
This study utilizes a quantitative, cross-sectional research design aimed at causal research and hypothesis testing regarding the factors influencing healthy esports engagement. The target population consists of university students from the Faculty of Business and Management at Universiti Teknologi MARA (UiTM), Puncak Alam Campus. Employing a convenience sampling technique, the data were successfully collected from a final sample size of 150 students. Data collection was carried out using a survey questionnaire using Google Forms and distributed directly through messaging networks like WhatsApp and Telegram. The structured instrument captured demographic profiles, gaming pattern frequencies, and specific attitude rating scales designed to measure five distinct independent variables, which are physical condition, physiological factors, social relations, environment, and spiritual elements, against the dependent variable of healthy esports engagement.

For the data analysis phase, the gathered responses were checked for completeness using a missing value analysis and standard categorical data cleaning procedures. The finalized dataset was then processed using the Statistical Package for the Social Sciences (SPSS) software. The analytical workflow involved testing data distribution normality via skewness and kurtosis metrics, alongside an internal consistency evaluation using Cronbach's alpha coefficients to guarantee scale reliability. Descriptive statistics, including mean scores and standard deviations, were computed to summarize baseline characteristics and variable ratings. Finally, inferential statistical tools were deployed to evaluate the direction, strength, and statistical significance of the relationships hypothesized between the independent variables and university students' healthy engagement in esports.

Research Framework

The research framework of this study investigates the relationship between physical condition, physiological condition, social condition, environment, spiritual and healthy esports engagement among Faculty of Business Management students at UiTM Puncak Alam. The framework investigates how physical condition, physiological condition, social condition, environment, and spiritual condition function as independent variables (IV's) to affect healthy esports engagement as the dependent variable (DV) among university students at UiTM.

Figure 1: Research Framework



Based on the above framework, the hypothesis is tested as follows:

H1: There is a significant relationship between physical condition and healthy esports engagement among university students in UiTM Puncak Alam.
H2: There is a significant relationship between physiological condition and healthy esports engagement among university students in UiTM Puncak Alam.
H3: There is a significant relationship between social relationships and healthy esports engagement among university students in UiTM Puncak Alam.
H4: There is a significant relationship between environment and healthy esports engagement among university students in UiTM Puncak Alam.
H5: There is a significant relationship between spiritual and healthy esports engagement among university students in UiTM Puncak Alam.

4. Results

This section provides the demographic profile of the sample (n = 150) consisting of undergraduate students from the Faculty of Business and Management at UiTM Puncak Alam Campus were analyzed using descriptive frequencies. As summarized in Table 1, the sample is predominantly female (**66%**, n = 99) compared to male (**34%**, n = 51). The vast majority of the respondents fall into the 21–25 age bracket (**84%**, n = 126), while students aged 20 and below and 26 and above constitute **8%** each (n = 12 per group). In terms of ethnicity, **96%** (n = 144) are Malay, with the remaining **4%** (n = 6) categorized as others (e.g., Orang Asli, Orang Sungai, and Borneo ethnicities). Regarding educational level, **63.3%** (n = 95) are degree students and **36.7%** (n = 55) are diploma students.

Table 1: Demographic Profile of Respondents (n = 50)

Variables	Category	Frequency (n)	Percentage (%)
GENDER	Male	51	34%
	Female	99	66%
AGE	Below 20 years old	12	8%
	21 – 25 years old	126	84%
	Above 26 years old	12	8%
RACE	Malay	144	96%
	Others	6	4%
PROGRAM	Diploma	55	36.7%
	Degree	95	63.3%

Reliability Construct Analysis

To verify the internal consistency and reliability of the measurement scales deployed, Cronbach's alpha coefficients were calculated for all five independent variables and the single dependent variable. According to the statistical parameters, scales displaying an alpha greater than 0.50 demonstrate sufficient validity and reliability. The results in Table 2 establish that all constructs exceed this threshold, with alpha values ranging from 0.737 to 0.977, thereby proving that the instrumentation is highly reliable for further parametric analyses.

Table 2: Reliability Analysis of Construct Scales (n = 150)

Variables Type	Construct Scale	Number of Items	Cronbach's Alpha	Internal Reliability
	Physical Condition	8	0.909	Reliable
Independent	Physiological	5	0.864	Reliable
	Social Relation	11	0.977	Reliable
	Environment	7	0.906	Reliable
	Spiritual	4	0.796	Reliable
Dependent	Healthy Esports Engagement	7	0.737	Reliable

Descriptive Statistics

Descriptive statistical evaluations, specifically computing metrics for mean scores and standard deviations (SD), were carried out to interpret the central tendency and distribution patterns across all variables based on the 150 responses. The values are summarized below in Table 3.

Table 3: Descriptive Statistics for Independent and Dependent Variables

Variables	Mean	Std. Dev. (SD)
Physical Condition	2.43	0.857
Physiological	2.59	0.623
Social Relation	3.25	0.686
Environment	3.21	0.507
Spiritual	3.52	0.573
Healthy Esports Engagement (DV)	**3.23**	**0.530**

Inferential Statistics: Multiple Regression Analysis

To estimate the collective predictive capacity of the independent factors and isolate which individual attributes yield distinct impacts when evaluated together, a standard multiple linear regression analysis was applied.

The total model summary indicates a strong collective link (R = 0.621), with an R-squared value (R^2) of 0.385. This confirms that the model's five independent variables collectively account for **38.5%** of the variance observed within healthy student esports engagement. The remaining **61.5%** variance implies external contributing components outside these research parameters (e.g., career paths, financial values, personal habits). The model's overall significance is validated by the ANOVA outcome: $F(5, 144) = 18.057$, \quad $p < 0.001$. This demonstrates that the collective regression model reliably predicts structural target variance.

Table 4: Multiple Linear Regression Coefficients Weights (n = 150)

Regression Model Predictor Variables	Unstandardized B	Std. Error	Standardize Beta	t-value	Sig. (p)
(Constant)	1.454	0.325		4.470	< 0.001
Physical Condition	0.132	0.049	0.214	2.716	0.007
Physiological	-0.016	0.066	-0.019	-0.247	0.805
Social Relation	0.440	0.058	0.569	7.564	< 0.001
Environment	-0.052	0.080	-0.050	-0.655	0.514
Spiritual	0.068	0.063	0.074	1.078	0.283

Discussion

The statistical results provide selective empirical support for the proposed structural framework, successfully confirming two out of the five core research hypotheses. Hypothesis 1 (H1), stating a significant relationship exists between physical condition and healthy esports engagement, is formally accepted ($p = 0.007$). This conforms to the conclusions of Palanichamy et al. (2020), which highlighted that continuous physical issues like shoulder and back fatigue are active symptoms tracking with long gaming routines, meaning balanced lifestyle integration directly shapes how students engage with esports activities.

Similarly, Hypothesis 3 (H3) is confirmed, establishing that social relations significantly influence healthy esports engagement (beta = 0.569, $p < 0.001$). This outcome demonstrates that competitive electronic sports act as an active bonding landscape, allowing university students to expand peer networks, experience cooperative team support, and enjoy a sense of camaraderie while tracking streaming matches or co-playing together.

Conversely, the remaining hypotheses failed to achieve separate baseline statistical criteria within the full linear regression construct. Hypothesis 2 (H2: Physiological), Hypothesis 4 (H4: Environment), and Hypothesis 5 (H5: Spiritual) are rejected as standalone predictors ($p > 0.05$). Although environmental awareness initially shared a small positive correlation ($r = 0.248$) in standalone pairings, its significance drops when controlled alongside social dynamics within the multiple regression analysis. This indicates that macro-environmental considerations, like electronic waste footprint or console power use, are overshadowed by intermediate social interactions.

Furthermore, the lack of significance for physiological and spiritual parameters suggests that while internal beliefs and health challenges like stress or sleep disorders exist among students, they function separately from how students systematically structure their gaming engagement patterns. These insights suggest that developers and campus administrators looking to foster healthy esports engagement should focus on physical ergonomic support and community-building social architectures.

5. Conclusion and Recommendations

The results of this study demonstrate that physiological, environmental, and spiritual factors did not show a statistically significant relationship with university students' ability to manage esports in a healthy manner. According to the study's findings, esports are popular among university students, and many of them participate in it. However, this study does not explore or analyze the precise relationship between the factors that influence university students' involvement. Additional research and analysis will be needed to evaluate how esports participation affects social engagement.

According to the data, there is a weak correlation between environment and healthy esports engagement among university students. The lack of statistical significance, however, raises the possibility that this association is coincidental rather than real. One potential contributing factor to the environment and healthy esports participation among university students is the measurement or evaluation approach. This study is limited to a small percentage of university students from the Faculty of Business and Management, UiTM, and

the findings may not apply to the population or racial category of the whole university. Differences in culture, geography, and individual and psychological practices may have contributed to the absence of significant findings.

The findings of this study suggest that there is an insufficient connection between spirituality and happiness. The observed link could, however, be the product of chance since this correlation was not statistically significant. Spirituality is influenced by a variety of elements, including religion, social support, and living circumstances. It is conceivable that physical activity alone does not have a strong enough impact on spiritual well-being when other elements that influence this are taken into account. It is advised to carry out additional studies in this area using larger sample sizes or different approaches in order to get more definitive conclusions.

In short, the results of this study demonstrate that healthy esports participation among university students is significantly influenced by social relations and physical condition. This outcome is also corroborated by earlier research, including a study by Khir et al. (2022). Students at universities can change their social relations and physical condition by participating in healthy esports activities.

References

Asher, C. (2022, November). *Playing dangerously: The environmental impact of video gaming consoles*. World Economic Forum.

Bavelier, D., & Green, C. S. (2019). Enhancing attentional control: Lessons from action video games. *Neuron*, *104*(1), 147–163.

Bonnaire, C., & Baptista, D. (2019). Internet gaming disorder in male and female young adults: The role of alexithymia, depression, anxiety and gaming type. *Psychiatry Research*, *272*, 521–530.

Canda, E. R., Furman, L. D., & Canda, H. J. (2010). *Spiritual diversity in social work practice: The heart of helping*. Oxford University Press.

Chan, G., Huo, Y., Kelly, S., Leung, J., Tisdale, C., & Gullo, M. (2022). The impact of eSports and online video gaming on lifestyle behaviors in youth: A systematic review. *Computers in Human Behavior*, *126*, Article 106974.

Christianity Enquiry Agency. (2020). *Gaming and spirituality*. Christianity. https://www.christianity.org.uk/article/gaming-and-spirituality

Cunningham, G. B., Fairley, S., Ferkins, L., Kerwin, S., Lock, D., Shaw, S., & Wicker, P. (2018). eSport: Construct specifications and implications for sport management. *Sport Management Review*, *21*(1), 1–6.

Darvin, L., Vooris, R., & Mahoney, T. (2020). The playing experiences of esport participants: An analysis of treatment discrimination and hostility in esport environments. *Journal of Athlete Development and Experience*, *2*(1), Article 3.

Debowska, A., Horeczy, B., Boduszek, D., & Dolinski, D. (2022). A repeated cross-sectional survey assessing university students' stress, depression, anxiety, and suicidality in the early stages of the COVID-19 pandemic in Poland. *Psychological Medicine*, *52*(15), 3744–3747.

Delello, J. A., McWhorter, R. R., Roberts, P., Dockery, H. S., De Giuseppe, T., & Corona, F. (2021). The rise of esports: Insights into the perceived benefits and risks for college students. *International Journal of eSports Research*, *1*(1), 1–19.

Desatoff, S., & Wallenstein, A. (2019, March 18). The problem of toxicity in esports (and two solutions). *Variety*.

DiFrancisco-Donoghue, J., Balentine, J., Schmidt, G., & Zwibel, H. (2019). Managing the health of the eSport athlete: An integrated health management model. *BMJ Open Sport & Exercise Medicine*, *5*(1), Article e000467.

Ellis, L. A., Lee, M. D., Ijaz, K., Smith, J., Braithwaite, J., & Yin, K. (2020). COVID-19 as a 'game changer' for the physical activity and mental well-being of augmented reality game players during the pandemic: Mixed methods survey study. *Journal of Medical Internet Research*, *22*(12), Article e25117.

Emara, A. K., Ng, M. K., Cruickshank, J. A., Kampert, M. W., Piuzzi, N. S., Schaffer, J. L., & King, D. (2020). Gamer's health guide: Optimizing performance, recognizing hazards, and promoting wellness in esports. *Current Sports Medicine Reports*, *19*(12), 537–545.

Fletcher, C. (2021, December 14). *Sustainability and the video gaming industry*. Earth.Org.

Formosa, J., Johnson, D., Turkay, S., & Mandryk, R. (2020). *The impacts of passion for esports on wellbeing*. DiGRA

Australia 2020 Conference.

Funk, D. C., Pizzo, A. D., & Baker, B. J. (2018). eSport management: Embracing eSport education and research opportunities. *Sport Management Review*, *21*(1), 7–13.

García-Lanzo, S., & Chamarro, A. (2018). Basic psychological needs, passion and motivations in amateur and semi-professional eSports players. *Aloma: Revista de Psicologia, Ciències de l'Educació i de l'Esport*, *36*(2), 59–68.

Giardina, A., Di Blasi, M., Schimmenti, A., King, D. L., Starcevic, V., & Billieux, J. (2021). Online gaming and prolonged self-isolation: Evidence from Italian gamers during the COVID-19 outbreak. *Clinical Neuropsychiatry*, *18*(1), 65–74.

Harding, N., & Noorbhai, H. (2021). Physical activity levels, lifestyle behavior and musculoskeletal health profiles among seated video gamers during COVID-19. *BMJ Open Sport & Exercise Medicine*, *7*(3), Article e001083.

Hellström, C., Nilsson, K. W., Leppert, J., & Åslund, C. (2015). Effects of adolescent online gaming time and motives on depressive, musculoskeletal, and psychosomatic symptoms. *Upsala Journal of Medical Sciences*, *120*(4), 263–275.

Hopia, H., Siitonen, M., & Raitio, K. (2018). Mental health service users' and professionals' relationship with games and gaming. *Digital Health*, *4*, Article 2055207618779718.

Hwu, M. (2022, September 11). *Healthcare in eSports – A definition for eSports*. 1-HP.

Inagaki, T. K. (2018). Opioids and social connection. *Current Directions in Psychological Science*, *27*(2), 85–90.

Jenny, S. E., Manning, R. D., Keiper, M. C., & Olrich, T. W. (2017). Virtual(ly) athletes: Where eSports fit within the definition of "sport". *Quest*, *69*(1), 1–18.

Jenny, S. E., Schelfhout, S., & Besombes, N. (2024). Esports in the Olympics. In *Routledge handbook of esports* (pp. 493–508). Routledge.

Khir, M. M., Maon, S. N., & Demong, N. A. R. (2022). Healthy eSport engagement for eSport athletes: A proposal for a research framework. *Journal of Entrepreneurship, Business and Economics*, *10*(2), 110–126.

Kriz, W. C. (2020). Gaming in the time of COVID-19. *Simulation & Gaming*, *51*(4), 403–410.

Lagunas, M. (2019, February 8). Are esports good for your health? *DW*.

Li, Y., Wang, C., & Liu, J. (2020). A systematic review of literature on user behavior in video game live streaming. *International Journal of Environmental Research and Public Health*, *17*(9), Article 3328.

Marsh, B. A., Andre, T. L., & Payton, S. L. (2020). Esports on campus: Challenges, considerations, and opportunities. In *Higher education response to exponential societal shifts* (pp. 330–355). IGI Global.

Mohd. Noor, B. O. (2021, May 21). *Permainan video: Sudut pandang Syariah*. Institute of Islamic Understanding Malaysia (IKIM).

Palanichamy, T., Sharma, M. K., Sahu, M., & Kanchana, D. M. (2020). Influence of esports on stress: A systematic review. *Industrial Psychiatry Journal*, *29*(2), 191–199.

Reich, S. M., Black, R. W., & Foliaki, T. (2018). Constructing difference: Lego® set narratives promote stereotypic gender roles and play. *Sex Roles*, *79*(5–6), 285–298.

Sampson, S. (2023, April 19). *What is health? Defining and preserving good health*. Medical News Today.

Shan, D., Xu, J., Liu, T., Zhang, Y., Dai, Z., Zheng, Y., Liu, C., Wei, Y., & Dai, Z. (2023). Subjective attitudes moderate social connectedness in esports gaming during the COVID-19 pandemic: A cross-sectional study. *Frontiers in Public Health*, *10*, Article 1058728.

Snodgrass, J. G. (2023). *The avatar faculty: Ecstatic transformations in religion and video games* (Vol. 16). University of California Press.