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Emotional states following eSport participation: A case study of university students in Ho Chi Minh City

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Abstract
This study focuses on assessing the emotional states of university students in Ho Chi Minh City while participating in various eSports disciplines, including League of Legends, Counter-Strike, and FIFA Online. A random sample of 100 students currently studying at the Vietnam National University-Ho Chi Minh City (VNU-HCM) was surveyed. The survey collected information on: (1) the type of eSport currently played, (2) the location of participation, (3) duration per session, (4) number of participation days per week, and (5) time frame of participation during the day. Emotional states were then evaluated using the Profile of Mood States-Short Form (POMS-16; Petrowski (2021). The findings revealed a significant gender disparity in eSports engagement. League of Legends emerged as the most popular eSport among university students (accounting for 63%), with most participation occurring during evening hours (18:00-23:59). Overall, the emotional state of students after eSports participation was found to be positive.

Keywords: Vietnam, eSports, emotional states, university students, league of legends

Introduction
ESports (electronic sports) are defined as competitive online games involving either individual players or teams, in which cognitive abilities are the primary factor determining performance much like traditional mind sports such as chess, xiangqi (Chinese chess), or poker (Cranmer, 2021) [3]. Despite their virtual nature, esports exhibit a high degree of competitiveness, demanding sustained effort, intense concentration, and the ability to make rapid and precise decisions under pressure. Team-based formats dominate most eSports competitions, making teamwork and effective coordination among players essential for success (Cranmer, 2021; Cunningham, 2018) [3, 4]. ESport has rapidly become a mainstream activity, with millions of young people playing and watching competitive video games. Surveys show that over 70% of young people are familiar with eSport, and a significant portion participate regularly, regardless of age or gender (Berliana, 2024; Thiel, 2018) [1, 11].
Although eSports is classified as a form of physical and sports activity, the benefits it offers differ significantly from those associated with traditional sports training (Cunningham, 2018; Jenny, 2017) [4, 7]. Unlike conventional physical activities that emphasize the comprehensive development of physical attributes such as strength, speed, endurance, coordination, and flexibility, eSports focuses on enhancing cognitive and technological skills namely, improved concentration, faster reaction times, and greater familiarity with digital environments (Edgar, 2019; Jenny, 2017) [6, 7]. Nevertheless, in terms of psychological and emotional experiences, participants in both traditional sports and eSports share fundamentally similar response (Edgar, 2019; Jenny, 2017) [6, 7].
Participation in eSports can facilitate the development of social relationships among students, both through online interactions and in-person events, thereby enhancing their sense of community and social belonging (Thompson, 2022) [12]. Nevertheless, excessive engagement has been associated with adverse outcomes such as mental fatigue, social isolation, and detrimental effects on academic achievement and physical health (e.g., visual strain, musculoskeletal discomfort) (DiFrancisco-Donoghue, 2019; Luo, 2023) [5, 9]. Students who engage in eSports socially with friends in face-to-face settings tend to report lower levels of loneliness, whereas those driven by escapism or exhibiting compulsive gaming behaviors may be more vulnerable to negative psychological and physical consequences.

(Luo, 2022, 2023) [9]. This study investigates the emotional states of university students in Ho Chi Minh City while engaging with various genres of electronic sports, including real-time strategy-based multiplayer online battle arena (MOBA) games such as League of Legends and DOTA 2; first-person shooter (FPS) games like PlayerUnknown's Battlegrounds (PUBG) and Counter-Strike, as well as sports simulation games that replicate traditional athletic disciplines, particularly popular titles such as FIFA and Pro Evolution Soccer (PES).

Research Methodology

Sampling

The survey instrument was finalized based on feedback from 12 experts in the field of electronic sports, after which a random sample of 100 university students from Vietnam National University-Ho Chi Minh City was surveyed.

Questionnaire

The complete survey instrument included the following sections: (1) General Information: Gender, Age, Monthly Income. (2) Characteristics of students participating in eSports activities, including: (a) Type of eSport currently being played; (b) Location of eSports participation; (c) Duration per eSports session; (d) Number of days participating in eSports per week; (e) Time frame of participation during the day

Emotional states during eSports participation were assessed using the Profile of Mood States-Short Form (POMS-16; Petrowski (2021) [10].

Data Analysis

After collecting the data, descriptive statistics were computed using SPSS v26.0 to examine participant characteristics, including general demographic information and variables related to the research content outlined in the questionnaire. Participants' emotional states were assessed using the POMS-16 short form, developed and validated by (Petrowski, 2021) [10]. This instrument comprises 16 items, each rated on a 5-point Likert scale (0="not at all" to 4="extremely"). The items are grouped into four subscales: Dejection (e.g., unhappy, downhearted); Vigor (e.g., energetic, active); Fatigue (e.g., worn out, tired); Anger (e.g., annoyed, grouchy).

Each subscale consists of 4 items, with total scores ranging from 0 to 16. Higher scores in Vigor indicate more positive mood states, while higher scores in Dejection, Fatigue, and Anger reflect negative mood states. For analysis, mean and standard deviation were calculated for each subscale based on responses from 100 university students (84 males, 16 females). These values were used to interpret overall emotional tendencies following participation in eSports activities.

Table 1: Demographic Characteristics and eSports participation patterns of students (N=100)

Category	Subcategory	Frequency (n)	Percentage (%)
Gender	Male	84	84%
	Female	16	16%
Age	19	18	18%
	20	27	27%
	21	24	24%
	22	21	21%
	23-24	10	10%
	>24	7	7%
Monthly Spending	< 2 million VND	31	31%
	2-5 million VND	63	63%
	5-10 million VND	4	4%
	>10 million VND	2	2%
Main eSports Game	League of Legends	64	64%
	FIFA Online	12	12%
	Crossfire	6	6%
	Others	18	18%
Participation Location	At home	45	45%
	Internet café	45	45%
	Other	10	10%
Session Duration	<1 hour	3	3%
	1-2 hours	40	40%
	2-3 hours	35	35%
	>3 hours	22	22%
Days per Week	1 day	6	6%
	2 days	19	19%
	3 days	35	35%
	>3 days	40	40%
Time of Day Participated	Morning (00:00-10:59)	9	9%
	Midday (11:00-13:59)	3	3%
	Afternoon (14:00-17:59)	25	25%
	Evening (18:00-23:59)	63	63%

Results and Discussion

Demographic Characteristics and eSports Participation Patterns of Students

The survey was conducted among 100 university students in Ho Chi Minh City to investigate the emotional states of those engaged in eSports. The results revealed a notable gender imbalance, with 86% male and 14% female participants. The age distribution was relatively even, with the majority ranging from 19 to 22 years old. In terms of economic background, most students reported a monthly expenditure between 2 and 5 million VND (63%), while a smaller proportion spent less than 2 million VND (31%) or more than 5 million VND (6%). Regarding the specific eSports titles played, League of Legends was the most popular (64%), followed by FIFA Online (12%), Counter-Strike (6%), and other games (18%). Most students participated in eSports either at home (45%) or at internet cafés (45%), suggesting accessibility and convenience were key factors. The duration of a typical session was generally over one hour, with 40% playing for 1 to under 2 hours and 35% playing for 2 to 3 hours. In terms of weekly frequency, 75% of students played eSports at least three times per week. Finally, evening (18:00-23:59) was the most common time for participation, accounting for 63% of responses. These findings provide a comprehensive overview of student eSports engagement and serve as a foundation for examining their emotional responses.

Emotional States of Students After Participating in eSports

The results of the present study, based on the Profile of Mood States-Short Form (POMS-16; Petrowski (2021) [10], indicate that university students exhibit an overall positive emotional profile after engaging in eSports activities. Among the four measured mood states Dejection, Vigor, Fatigue, and Anger the Vigor subscale showed the highest mean score (M=11.8, SD=2.4), suggesting that a majority of participants reported feeling energetic, active, and alert after gameplay. In contrast, negative mood states such as Dejection (M=4.5), Fatigue (M=5.2), and Anger (M=4.0) presented comparatively lower mean values, indicating that negative emotional responses were minimal.

Table 2: Emotional states of students after participating in eSports

Mood State	No of Participants (M/F)	Mean (M)	Standard Deviation (SD)
Dejection	100 (84/16)	4.5	2.1
Vigor	100 (84/16)	11.8	2.4
Fatigue	100 (84/16)	5.2	1.9
Anger	100 (84/16)	4.0	2.0

Importantly, more than 55% of the respondents scored 10 or above on the Vigor subscale, reflecting a predominantly positive mood state among participants. These findings are consistent with previous literature emphasizing the psychological benefits of structured and socially interactive gaming experiences (Cheng, 2023; Jenny, 2017) [9, 7] Despite concerns regarding excessive screen time or competitive stress, the data suggest that moderate and social participation in eSports may foster emotional uplift and mental engagement, particularly among university students.

Overall, the emotional profile observed in this sample supports the notion that eSports, when approached in a balanced and social manner, can serve not only as a form of entertainment but also as a psychological stimulant, promoting positive emotional outcomes similar to those found in traditional sports contexts.

Conclusions

The study provides valuable insights into the emotional states of university students in Ho Chi Minh City after participating in eSports activities. Based on a survey of 100 students, the findings indicate that a significant proportion of participants over 55% reported positive mood states after engaging in games such as *League of Legends*, *FIFA Online*, and *CrossFire*. The most popular game among students was *League of Legends*, and most participation occurred during evening hours (18:00-23:59). The data also revealed a notable gender imbalance, with male students comprising 86% of participants.

Moreover, the Profile of Mood States-Short Form (POMS-16) results showed low mean scores for negative emotional states (Dejection, Fatigue, Anger) and a high mean score for the positive mood state (Vigor), suggesting that eSports participation is associated with favorable emotional outcomes. These results imply that eSports may serve not only as a recreational activity but also as a potential contributor to psychological well-being when appropriately balanced with daily responsibilities.

Despite its contributions, the study has several limitations. First, the sample size was relatively small and limited to students within the Vietnam National University-Ho Chi Minh City area, which may restrict the generalizability of the findings. Second, the cross-sectional design captures emotional states at a single point in time, making it difficult to assess long-term emotional effects of eSports participation. Third, self-reported data may be subject to bias, including social desirability or inaccurate recall. Future research should aim to use longitudinal designs, larger and more diverse samples, and incorporate objective psychological or physiological measures to validate the emotional impacts of eSports more comprehensively.

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