



DEVELOPING A SCALE TO ASSESS MENTAL HEALTH AND SATISFACTION OF STUDENTS PARTICIPATING IN EXTRACURRICULAR SPORTS CLUBS AT THE UNIVERSITY OF DANANG, VIETNAM

Dam Hung Phi¹,
Vo Minh Trung²,
Tran Thong Minh³,
Nguyen Quang Vinh⁴ⁱ

¹Lecturer,
School of Physical Education,
Da Nang University,
Vietnam

²Director,
Center for Physical Education and
National Defense Education,
Vinh Long University of Technology and Education,
Vietnam

³Lecturer,
Center for Physical Education and National Defense Education,
Vinh Long University of Technology and Education,
Vietnam

⁴Vice Principal,
Ho Chi Minh City University of Physical Education and Sports,
Vietnam

Abstract:

Promoting well-organized extracurricular sports clubs in universities is essential in today's educational landscape, as these activities support students' overall development by improving physical health, personal skills, and athletic performance. This study aims to develop a measurement scale to assess the mental health status and satisfaction levels of students engaged in extracurricular sports clubs at the University of Da Nang, Vietnam. To achieve this aim, the study employed a combination of methods, including document synthesis, expert survey, and statistical analysis that is specific to the field of physical education and sports. The research involved 2,913 second-year students from various member institutions of the University of Da Nang, along with 12 experts and lecturers specializing in physical education. The study successfully identified seven indicators for assessing mental health and fifteen indicators for evaluating student

ⁱ Correspondence: email vinhqn@upes.edu.vn

satisfaction. Findings reveal that both the mental health and satisfaction of participating students were at a moderate level.

Keywords: scale development, mental health, satisfaction, students, sports clubs, University of Da Nang, Vietnam

1. Introduction

Extracurricular sports activities refer to organized, voluntary physical activities conducted outside regular classroom hours, designed to match students' interests, gender, age, and physical condition [1]. These activities hold a significant place in education and school-based physical training. Alongside formal instruction, extracurricular activities form an essential part of a well-rounded educational framework, contributing to the overall goals of schooling. As such, extracurricular sports are a vital component of school athletics and a key pathway to fulfilling its objectives. Without extracurricular engagement, school sports programs would be incomplete [2], [3].

Extracurricular activities are also defined as those *"outside the school's formal curriculum"* [4]. According to Rubin, Bommer, and Baldwin (2002), *"extracurricular activities are where students seek to apply, refine, and develop their interpersonal communication skills"* [5]. Cole, Rubin, Feild, and Giles (2007) emphasized that student participation in such activities is a vital aspect of the educational experience [6]. Barnett (2007) described extracurricular activities in terms of involvement in sports, academic clubs, student associations, and special interest groups [7]. Rynes, Trank, Lawson, and Ilies (2003) surveyed employers and found that student participation in extracurricular activities is seen as an effective way to develop leadership and communication skills [8]. Fredricks and Eccles (2006) also state that *"Participation in high-quality extracurricular programs, such as sports teams and school clubs, is a popular use of young people's leisure time..."* [9].

Extracurricular sports activities are highly encouraged in universities, as they serve multiple purposes. First and foremost, such activities meet students' need for physical movement. Physical activity is one of the most basic needs among university students, and ensuring access to adequate sports facilities such as training halls and sports grounds is fundamental for any institution that aspires to meet quality standards. The availability of facilities to support physical activity is often a key criterion for students when choosing a university. The World Health Organization has also raised concerns about a global trend, stating: *"The reduction in physical activity and physical education programs in schools is an alarming issue worldwide"* [10]. Therefore, promoting extracurricular sports programs to meet students' movement needs is not just beneficial, but necessary. Secondly, such activities help establish a healthy balance between study and rest. According to A.D. Novikov and L.P. Matveev, the rapid advancement of science and technology, coupled with the increasing volume of information, has made students' academic workloads increasingly intense and mentally taxing. Physical education and

sports offer an effective means to reduce academic pressure, promote active rest, and sustain overall functional capacity throughout students' academic years [11]. Thirdly, extracurricular sports activities create a healthy and engaging environment for movement, play, and recreation, encouraging students to take part in positive activities and helping them avoid social evils. In recent years, social issues have gradually infiltrated school environments, threatening students' morals, integrity, and academic focus, potentially jeopardizing their futures. While official statistics on the prevalence of social problems among students are lacking, small-scale studies suggest that the number of students involved in such issues is not insignificant.

In today's era of global integration and socio-economic development, students' quality of life has improved, and so have their diverse needs. They have legitimate and healthy desires for exercise, sports, and recreational activities. However, many universities still face challenges related to infrastructure and facilities, making it difficult to fully meet these needs. Meanwhile, external environments present various negative temptations that may easily lead students astray. In this context, providing a positive and structured extracurricular sports environment becomes both a crucial and urgent task in guiding students toward constructive behaviors and away from harmful influences.

To develop effective solutions for improving extracurricular sports programs, it is necessary to have reliable data on students' physical health and their satisfaction with these activities. Given this importance, our group has chosen to explore this topic in the following study *"Developing a scale to assess mental health and satisfaction of students participating in extracurricular sports clubs at the University of Da Nang, Vietnam"*.

2. Materials & methods

2.1 Participants

2.1.1 Participants for evaluating the current status

2,913 second-year students (1,915 male and 998 female) from the member universities of the University of Da Nang (University of Science and Technology, University of Economics, University of Education, University of Foreign Language Studies, University of Technology and Education, University of Information Technology and Communications – Vietnam-Korea) who are involved in extracurricular sports clubs. The sample was selected using a combination of random and convenience sampling methods.

2.1.2 Participants for assessing the reliability of the criteria for mental health and satisfaction

600 students from three universities under the University of Da Nang, University of Science and Technology, University of Economics, and University of Education, with 200 students (100 male, 100 female) from each school, were selected using random and convenience sampling methods.

2.1.3 Participants for selecting the criteria and revising the survey instrument

12 physical education experts and university administrators from the University of Da Nang's member institutions were selected through purposive sampling.

2.2 Methodology

2.2.1 Document synthesis

This method was used to compile and analyze information from various sources to identify scientific arguments that are relevant and applicable to the Vietnamese context. It also supported the selection and discussion of criteria for evaluating mental health and student satisfaction with extracurricular sports club participation. This method helped form the theoretical foundation of the study, guided the research design, and assisted in selecting appropriate assessment content and interpreting the results.

2.2.2 Survey

This method aimed to collect expert opinions from specialists, professionals, and lecturers in the field to help identify relevant criteria for assessing the mental health and satisfaction of the target student population.

2.2.2.1 Statistical analysis

This method was used to process and analyze the collected data. All data obtained during the research were analyzed using statistical methods, supported by the SPSS 22.0 software.

3. Results and Discussion

3.1. Developing a scale to assess mental health and satisfaction of students participating in extracurricular sports clubs at the University of Da Nang, Vietnam. The study was conducted in three steps as follows:

Step 1: Synthesizing the criteria for assessing the current situation of physical education and sports clubs, physical education activities and physical training and sports activities for students from the research works of domestic and foreign authors such as: Mario et al. (2011) [12], Pham Quoc Nam (2015) [13], Mai Thi Hong Hanh (2015) [14], Pham Thanh Giang (2016) [15], Le Minh Thai (2017) [16], Tran Do Trong (2017) [17], Ruffalo (2017) [18], Nguyen Ngoc Minh (2018) [19], Dang Minh Thang (2019) [20], Nguyen Quang San (2020) [21], Dao Chanh Thuc (2020) [22], Nguyen Huu Tri (2023) [23], Mai Van Ngoan (2025) [24], Nguyen Do Minh Son (2025) [25], and so on. Based on the synthesis of relevant documents, the consideration of the research objectives and practical conditions at the University of Da Nang, and the researcher's own experience, the study identified two sets of criteria for evaluation: seven criteria for assessing mental health and fifteen criteria for evaluating student satisfaction with participation in extracurricular sports clubs.

Step 2: Expert Interviews. To validate the selected criteria, the study developed a questionnaire and conducted surveys with 12 experienced physical education experts, administrators, and lecturers. These experts were surveyed to gather their perspectives on the relevance of the mental health and satisfaction criteria for students participating in extracurricular sports activities at the University of Da Nang. The survey was conducted twice to verify the consistency of expert responses. The results of the chi-square test used to assess the consistency between the two rounds of responses are presented in Table 1.

Table 1: Survey results of the criteria to assess students' mental health and satisfaction when participating in extracurricular sports clubs at the University of Da Nang

	Criterion	1st (n = 12)		2nd (n = 12)		Result	
		Total	%	Total	%	χ^2	Sig
I	Mental health						
1	Improve overall health	55	91.67	55	91.67	0.00	1.000
2	Enhance physical fitness and build resistance to illness	54	90.00	55	91.67	0.17	0.683
3	Provide fun, entertainment, relaxation, and stress relief	51	85.00	51	85.00	0.00	1.000
4	Expand social interaction and networking	51	85.00	51	85.00	0.00	1.000
5	Enjoy love, support, and community inclusion	50	83.33	51	85.00	0.10	0.747
6	Develop patience and resilience	51	85.00	52	86.67	0.11	0.735
7	Foster a love for physical activity and build regular exercise habits	50	83.33	51	85.00	0.10	0.747
II	Satisfaction						
	Facilities						
1	Modern and well-equipped sports facilities and training grounds	52	86.67	53	88.33	0.13	0.722
2	Spacious, safe, and clean training environment	50	83.33	51	85.00	0.10	0.747
	Coaches/Instructors						
3	Have solid expertise and extensive experience	50	83.33	51	85.00	0.10	0.747
4	Be friendly, enthusiastic, and inspiring coaches who are approachable and dedicated to student guidance	51	85.00	52	86.67	0.11	0.735
	Training Programs						
5	Have a diverse range of sports offered in club training programs	54	90.00	55	91.67	0.17	0.683
6	Have many programs available for all levels (beginner, advanced, team-level, etc.)	50	83.33	51	85.00	0.10	0.747
	Operations						
7	Have flexible training schedules (morning, noon, afternoon, evening)	51	85.00	51	85.00	0.00	1.000
8	Be located at convenient places (dormitories, campus areas, etc.)	51	85.00	52	86.67	0.11	0.735
9	Have a simple club membership registration process	50	83.33	51	85.00	0.10	0.747
10	Have effective club management	52	86.67	51	85.00	0.11	0.735
11	Have reasonable training fees	56	93.33	56	93.33	0.00	1.000
12	Have a variety of club activities (training, competitions, social gatherings, excursions, sports festivals, event organization, etc.)	53	88.33	53	88.33	0.00	1.000
	Outcomes						
13	Create a positive, open, friendly, and engaging training atmosphere	51	85.00	51	85.00	0.00	1.000
14	Improve physical fitness and sports skills	51	85.00	51	85.00	0.00	1.000
15	Develop soft skills (teamwork, leadership, communication, event participation and organization, club management, etc.)	51	85.00	52	86.67	0.11	0.735

The results in Table 1 show that for both rounds of the expert survey, all indicators had Chi-square values (χ^2) less than the critical value (3.84) and significance levels (Sig)

greater than 0.05. This indicates that there were no statistically significant differences between the two sets of responses at the 5% confidence level. Therefore, there was a high level of consistency in the responses from experts, specialists, and university administrators across both rounds. Based on the criteria that selected indicators must achieve more than 75% of the total score in both rounds (i.e., over 45 points), the study identified 07 indicators to assess mental health and 15 indicators to assess student satisfaction related to participation in extracurricular sports clubs at the University of Da Nang.

Step 3: Reliability testing. To ensure the reliability of the selected items, the study conducted reliability testing using the Cronbach's Alpha coefficient. The mental health scale consisted of 07 items, while the satisfaction scale included 15 items. Surveys were administered to 600 students from three member universities of the University of Da Nang: University of Science and Technology, University of Economics, and University of Education (200 students from each, with an equal number of male and female respondents). The results of the reliability analysis using Cronbach's Alpha for the mental health and satisfaction scales are presented in Table 2.

Table 2: Cronbach's Alpha reliability coefficients for mental health and satisfaction indicators among students participating in extracurricular sports clubs at the University of Da Nang

Item	Item Mean if Deleted	Item Variance if Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
Mental health				
01	18.73	11.136	.841	.954
02	18.78	10.898	.870	.952
03	18.87	10.804	.870	.952
04	18.71	11.500	.945	.947
05	18.69	11.444	.886	.951
06	18.72	11.640	.764	.960
07	18.73	11.275	.859	.952
Cronbach's Alpha = .959 N of Items = 7				
Satisfaction				
01	51.43	15.38	.475	.765
02	51.32	15.91	.434	.754
03	51.53	15.37	-.511	.799
04	51.63	15.14	.481	.779
05	51.33	15.09	-.550	.798
06	51.43	16.51	.467	.765
07	51.23	16.97	.524	.776
08	51.73	18.09	-.546	.792
09	50.80	13.58	.678	.723
10	51.13	13.02	.831	.705
11	50.93	15.24	.520	.745
12	51.03	14.33	.474	.747
13	51.13	14.99	.582	.739
14	51.13	13.62	.698	.721
15	51.13	13.03	.831	.705
Cronbach's Alpha = .789 N of Items = 15				

Data in Table 2 shows:

For mental health, the total Cronbach's Alpha coefficient was 0.959, which exceeds the commonly accepted threshold of 0.6. Moreover, all items demonstrated a Corrected Item-Total Correlation greater than 0.3, indicating a strong relationship with the overall construct [25]. These results confirm the reliability of the seven criteria identified for assessing students' mental health in extracurricular sports club participation at the University of Da Nang.

For satisfaction, the overall Cronbach's Alpha was 0.789, also above the acceptable threshold. Each item showed a Corrected Item-Total Correlation greater than 0.3, supporting the internal consistency of the scale [25]. Therefore, the 15 satisfaction assessment criteria used in the study are considered reliable for evaluating students' satisfaction with their extracurricular sports club experience at the University of Da Nang.

3.2 Assessment of students' mental health and satisfaction in extracurricular sports clubs at the University of Da Nang

A total of 2,913 students from the University of Da Nang who participated in extracurricular sports clubs were surveyed using the validated criteria from Section 3.1 to assess their mental health and satisfaction. The findings are presented in Table 3.

Table 3: Survey results on mental health and satisfaction criteria of students participating in extracurricular sports clubs at the University of Da Nang (n = 2913)

	Criterion	Result	
		\bar{X}	S
Mental health			
1	Improve overall health	3.53	0.50
2	Enhance physical fitness and build resistance to illness	3.20	0.40
3	Provide fun, entertainment, relaxation, and stress relief	3.47	0.50
4	Expand social interaction and networking	3.33	0.47
5	Enjoy love, support, and community inclusion	3.20	0.40
6	Develop patience and resilience	3.27	0.44
7	Foster a love for physical activity and build regular exercise habits	3.39	0.49
Satisfaction			
	Facilities	2.74	
1	Modern and well-equipped sports facilities and training grounds	2.80	0.70
2	Spacious, safe, and clean training environment	2.69	0.67
	Coaches/Instructors	2.80	
3	Have solid expertise and extensive experience	2.86	0.67
4	Be friendly, enthusiastic, and inspiring coaches who are approachable and dedicated to student guidance	2.74	0.63
	Training Programs	2.55	
5	Have a diverse range of sports offered in club training programs	2.53	0.52
6	Have many programs available for all levels (beginner, advanced, team-level, etc.)	2.57	0.61
	Operations	2.69	
7	Have flexible training schedules (morning, noon, afternoon, evening)	2.82	0.69
8	Be located at convenient places (dormitories, campus areas, etc.)	2.96	0.73

9	Have a simple club membership registration process	3.15	0.51
10	Have effective club management	2.47	0.50
11	Have reasonable training fees	2.38	0.49
12	Have a variety of club activities (training, competitions, social gatherings, excursions, sports festivals, event organization, etc.)	2.35	0.48
	Outcomes	2.95	
13	Create a positive, open, friendly, and engaging training atmosphere	2.36	0.47
14	Improve physical fitness and sports skills	3.27	0.58
15	Develop soft skills (teamwork, leadership, communication, event participation and organization, club management, etc.)	3.21	0.52

As shown in Table 3, it is clear to see that the mental health benefits regarding “Improving overall health” and “Providing fun, entertainment, relaxation, and stress relief” are rated relatively high, with mean scores \bar{X} between 3.47 and 3.53. Other mental health aspects, such as “Expanding social interaction,” “Enhancing physical fitness and resistance to illness,” “Experiencing love, support, and inclusion,” “Building patience and resilience,” and “Developing a love for physical activity with regular exercise habits”, receive moderate ratings, ranging from 3.20 to 3.39.

Regarding satisfaction, students express dissatisfaction with the training programs, which receive the lowest average score ($\bar{X} = 2.55$). Other areas, including coaches/instructors, facilities, implementation, and outcomes, are rated at a moderate satisfaction level ($\bar{X} = 2.69$ – 2.95). Among all criteria, the highest average score at a moderate level of satisfaction is for “improvement in physical fitness and sports skills” ($\bar{X} = 3.27$), while the lowest is for “variety of club activities” such as training, competitions, social events, excursions, sports festivals, and event organization ($\bar{X} = 2.35$).

4. Conclusion

The study identifies 7 criteria for assessing mental health and 15 criteria for evaluating student satisfaction with participation in extracurricular sports clubs at the University of Da Nang. Overall, students’ mental health and satisfaction levels with these activities are reported to be at a moderate level.

Conflict of Interest Statement

The authors declare no conflicts of interest.

About the Author(s)

Dam Hung Phi has been a physical education teacher at School of Physical Education, Da Nang University, Vietnam.

Vo Minh Trung has been the Director Center for Physical Education and National Defense, Vinh Long University of Technology and Education, Vietnam.

Tran Thong Minh has been a physical education teacher at the Center for Physical Education and National Defense Education, Vinh Long University of Technology and Education, Vietnam.

Nguyen Quang Vinh has been the Vice Principal, Ho Chi Minh City University of Physical Education and Sports, Vietnam.

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