European Journal of Physical Education and Sport Science
ISSN: 2501 - 1235
ISSN-L: 2501 - 1235
Available on-line at: www.oapub.org/edu

DOI: 10.46827/ejpe.v13i6.6929 Volume 13 | Issue 6 | 2026

PHYSICAL FITNESS STATUS OF FEMALE STUDENTS AT THE UNIVERSITY OF DANANG, VIETNAM

Nguyen Thanh Giang[1],
Tran Huu Hung[2],
Nguyen Quang Vinh[3i]
[1]Teacher,
School of Physical Education,
Da Nang University,
Vietnam
[2]Vice Dean,
Faculty of Sports Management,
Da Nang Sport University,
Vietnam
[3]Vice Principal,
Ho Chi Minh City University of Physical Education and Sports,
Vietnam

Abstract:
Introduction: Physical fitness is a key indicator reflecting health and the quality of human resources. However, studies comprehensively assessing the physical fitness of female university students—based on morphological, functional, and physical performance metrics—remain limited at regional universities in Vietnam. In particular, there has been no large-scale, systematic study evaluating the physical fitness status of female students at the University of Danang. Objective: To assess the physical fitness status of first-year female students at the University of Danang, thereby establishing a scientific basis for reforming the physical education curriculum and proposing solutions to improve student physical fitness. **Methods:** The study employed literature review, expert interviews, pedagogical testing, anthropometric and biomedical assessments, and statistical analysis. Criteria were selected through two rounds of expert interviews before the assessment of the current status. Subjects: The study surveyed 1,000 first-year female students from seven member institutions of the University of Danang and interviewed 15 experts in physical education and school sports. **Results:** Eight criteria were selected to assess body morphology, physiological function, and physical fitness. The mean height was 156.40 ± 4.88 cm, and the mean BMI was 19.50 ± 2.01 kg/m²; cardiac function was rated as poor. 32.70% of students were underweight, and 80.00% failed to meet general physical fitness standards, with 75.80% failing the 5-minute self-paced run test.

[i] Correspondence: email vinhqn@upes.edu.vn

Conclusion: The physical condition of female students remains limited, particularly regarding cardiovascular endurance and general physical fitness. These findings serve as a basis for adjusting physical education curricula, improving nutrition, and enhancing activities aimed at developing endurance.

Keywords: physical fitness, female students, Da Nang University, Vietnam

1. Introduction

Physical fitness is one of the important indicators reflecting the health status, ability to adapt to study, work, and the quality of human resources of each country. For college students, especially female students, physical development not only affects the ability to study, participate in physical activities and sports, but also has implications for reproductive health, mental health and the formation of a healthy lifestyle in the future. The World Health Organization (WHO) recommends that adults aged 18–64 years maintain at least 150–300 minutes of moderate-intensity physical activity or 75–150 minutes of vigorous-intensity physical activity per week to reduce the risk of non-communicable diseases and improve quality of life [1]. However, the WHO report also shows that physical inactivity is still common among young people and university students, especially women, increasing the risk of physical decline, obesity and metabolic diseases [1,2].

In recent years, numerous studies worldwide have confirmed that students' physical fitness is influenced by physical activity levels, nutritional habits, sedentary behavior, academic pressure, and the educational environment [3–5]. Research also indicates that female students generally exhibit lower levels of physical activity, as well as inferior muscular strength and cardiovascular endurance, compared to their male counterparts; furthermore, the proportion of female students meeting WHO physical activity recommendations remains low [2,6]. These findings suggest that assessing the physical fitness status of female students is significant not only within the realm of physical education but also serves as a foundation for developing intervention programs aimed at improving public health within university settings.

In Vietnam, numerous studies have assessed the physical fitness or physical activity levels of university students; however, most have focused on isolated fitness indicators or assessments based on standard physical training criteria, while research simultaneously evaluating the morphological, functional, and fitness characteristics of female students remains limited. Notably, few studies have been conducted on the scale of a regional university comprising multiple member institutions with diverse academic profiles—such as the University of Danang. Consequently, existing evidence neither fully reflects the physical status of female students nor provides a scientific basis for tailoring physical education curriculum and health-promotion activities to the specific characteristics of different student groups.

The University of Danang is one of Vietnam's key regional universities, educating students across various fields such as science, engineering, economics, education, and

foreign languages. Differences in academic disciplines, study intensity, and opportunities for physical activity can lead to variations in physical characteristics among groups of female students. However, to date, no study has systematically assessed the physical status of female students across the entire University of Danang by integrating morphological, functional, and physical fitness indicators. This research gap limits the ability to comprehensively evaluate students' physical condition and to devise appropriate intervention strategies.

The study's novelty lies not only in its assessment of the physical status of female students but also in its comprehensive approach—utilizing three categories of indicators (morphological, functional, and physical fitness)—applied to a large sample representing various member institutions of the University of Danang. The findings not only reflect the extent to which female students meet physical fitness standards but also provide a database to support health monitoring, the reform of physical education curriculum, and the development of strategies to enhance physical fitness within higher education institutions. Furthermore, the study serves as a valuable reference for comparisons with domestic and international research on the physical fitness of female students.

Based on the aforementioned premises, the study "Physical Fitness Status of Female Students at the University of Danang, Vietnam" was conducted to assess the morphological, functional, and physical fitness indicators of female students, thereby providing scientific evidence to support the management and reform of physical education and the enhancement of student health within universities.

2. Materials & methodologies

2.1 Participants

The subjects participating in the physical assessment to evaluate the current status were 1,000 first-year female students from member institutions of the University of Danang (University of Science and Technology, University of Economics, University of Education, University of Foreign Language Studies, University of Technical Education, and Vietnam-Korea University of Information and Communication Technology), selected using a random and convenience sampling method.

Interview subjects choose physical assessment criteria: 15 experts and specialists in the field of Physical Education and School Sports are selected according to the judgment method.

2.2 Methodology

To address the content of this article, the following methods are employed:

- **Document analysis and synthesis:** This method involves synthesizing information from various sources to identify scientific arguments applicable to the context of Vietnam. It is used to analyze and consolidate issues related to the criteria for assessing students' physical fitness. This approach facilitates the establishment of a theoretical framework for the study, the selection of research methods and assessment content, and the discussion of research findings.

- **Questionnaire-based interview method:** This method aims to gather input from experts, specialists, and instructors to select physical assessment criteria for the research subjects.
- **Pedagogical testing method:** This method involves administering physical fitness tests to the research subjects, comprising the following: 30m sprint (seconds), standing long jump (cm), 4 x 10m shuttle run (seconds), 5-minute endurance run (meters), and standing forward bend (cm).
- **Medical testing method**
  - **Anthropometric method:** This method involves assessing morphological indicators—specifically anthropometry, the science of measuring the structure and external form of the human body. The study measures the following morphological indicators: standing height (cm), body weight (kg), and Body Mass Index (BMI, kg/m²).
  - **Biomedical assessment method:** This method enables the evaluation of biomedical functional parameters in the study subjects; specifically, the thesis assesses cardiovascular system function using a cardiac functional test.
  - **Statistical method:** This method is used to process and analyze the collected data. Data gathered during the study are processed and analyzed using statistical techniques with the aid of SPSS 22.0 software.

3. Results

To assess the physical fitness status of female students at the University of Danang, the study was conducted in two steps:

- Defining criteria for assessing the physical fitness status of female students at the University of Danang.
- Assessing the physical fitness status of female students at the University of Danang.

3.1 Determine criteria for assessing the physical status of female students at the University of Danang

To determine the criteria for assessing the physical fitness of female students at the University of Danang, the study was conducted according to the following steps:

- Synthesizing physical fitness assessment criteria for students from research conducted by domestic and international authors.
- Interviewing experts and professionals in the fields of physical education and school sports.
- Verifying the reliability of the criteria.

This study synthesizes physical fitness assessment criteria for students based on research by domestic and international authors—such as Duong Nghiep Chi et al. (2013) [10], the Ministry of Education and Training (2008) [9], Nguyen Anh Tuan et al. (2010) [18], Hoang Ha (2016) [11], Nguyen Van Hoa (2017) [12], Dao Chanh Thuc (2020) [16], Nguyen Huu Tri (2023) [17], Mai Van Ngoan (2025) [14], Nguyen Do Minh Son (2025)

[15], and Nguyen Ngoc Minh (2018) [13] utilizing the student physical fitness assessment tests prescribed in Decision 53/2008/QĐ-BGDDT.

Based on a synthesis of results, expert consultations, practical conditions, and personal experience, the following physical fitness assessment criteria were selected for female students at the University of Danang: standing height (cm), body weight (kg), BMI (kg/m²), Quetelet index (g/cm), heart function (HW), vital capacity (L), 30m high-start run (s), standing long jump (cm), 4x10m shuttle run (s), 5-minute endurance run (m), 30-second sit-ups (reps), dominant hand grip strength (kg), standing trunk flexibility (cm), and 30-second push-ups (reps).

3.1.1 Interviews with experts and specialists in the fields of physical education and school sports

A questionnaire was developed and administered to 15 experts and specialists in physical education and school sports to gather input on criteria for assessing the physical fitness of students at the University of Danang. Responses were rated on a scale of 1 to 5: (1) Strongly disagree, (2) Disagree, (3) Neutral/Undecided, (4) Agree, (5) Strongly agree.

Conduct two rounds of interviews and assess the consistency between them using χ^2. The results obtained are presented in Table 1.

Table 1: Results of interviews on physical assessment criteria for female students at the University of Danang

	Criteria	First time (n = 15)		Second time (n = 15)		Inspection	
		Total score	%	Total score	%	χ^2	Sig
1	Standing height (cm)	72	96.00	71	94.67	0.12	0.738
2	Weight (kg)	56	74.67	56	74.67	0.00	1.000
3	BMI (kg/m²)	72	96.00	71	94.67	0.12	0.738
4	Quetelet index (g/cm)	55	73.33	55	73.33	0.00	1.000
5	Heart function (HW)	73	97.33	73	97.33	0.00	1.000
6	Vital capacity (L)	52	69.33	51	68.00	0.11	0.736
7	30m high-start run (s)	71	94.67	71	94.67	0.00	1.000
8	Standing long jump (cm)	72	96.00	72	96.00	0.00	1.000
9	4x10m shuttle run (s)	71	94.67	71	94.67	0.00	1.000
10	Dominant hand grip strength (kg)	55	73.33	56	74.67	0.13	0.735
11	30-second sit-ups (reps)	54	72.00	54	72.00	0.00	1.000
12	30-second push-ups (reps)	52	69.33	52	69.33	0.00	1.000
13	Standing trunk flexibility (cm)	71	94.67	71	94.67	0.00	1.000
14	5-minute endurance run (m)	73	97.33	73	97.33	0.00	1.000

The results in Table 1 show that across the two interviews, all physical assessment criteria were met chi-square test < chi-square table (= 3.84) and Sig > 0.05), Therefore, the difference between the two interview rounds was not statistically significant at the 5% probability level, indicating a high degree of consistency in the responses provided by the experts, specialists, and administrators. Criteria were selected based on achieving a

total score exceeding 75% of the maximum possible score (i.e., > 57 points) in both interview rounds. Applying this principle, the selected physical assessment criteria for female students at the University of Danang are: standing height (cm), BMI (kg/m²), cardiac function (HW), 30m high-start run (s), standing long jump (cm), 4x10m shuttle run (s), 5-minute endurance run (m), and standing trunk flexion (cm).

3.1.2 Assessment of criteria reliability

Research findings indicate that the aforementioned criteria are widely used in Vietnam for physical fitness assessment; specifically, they have been employed by the Ministry of Education and Training to evaluate the physical fitness of pupils and students, and have also been utilized in various academic theses to assess university students' physical condition. Therefore, these criteria possess sufficient reliability for assessing the physical fitness of students at the University of Danang.

3.2 Assessment of the physical status of female students at the University of Danang

To assess the physical fitness status of female students at the University of Danang (UDN), the study evaluated the physical fitness criteria identified in Section 3.1 among 1,000 first-year female students (aged 18) from UD's member institutions who were currently taking physical education courses, and calculated the relevant parameters $\overline{X}$, S, Cv, ε. The following results were obtained:

Table 2: Physical status of first-year female students at the University of Danang

	Criteria	$\overline{X}$	S	Cv	ε
First-year student (n = 1000)	Standing height (cm)	156.40	4.88	3.12	0.00
	BMI Index (kg/m²)	19.50	2.01	10.33	0.01
	Cardiac function (HW)	11.38	2.01	17.68	0.01
	Standing long jump (cm)	169.17	14.73	8.71	0.01
	30m high-start run (s)	5.76	0.46	7.93	0.00
	4x10m shuttle run (s)	11.92	1.14	9.54	0.01
	5-minute endurance run (m)	790.04	116.03	14.69	0.01
	Standing trunk flexion (cm)	16.87	3.56	21.09	0.01

The data in Table 2 show the coefficient of variation (CV), a parameter reflecting the degree of variation among individuals within a sample set or population. All indices of the study subjects showed that the indices with high uniformity (meaning small fluctuation dispersion) among the study individuals (CV < 10%) were standing height (cm) and running 30 m. These are indicators that always have high uniformity because they are less influenced by environmental factors and living conditions such as nutrition, living and working regimen... "At the same time, they are indicators measured by proportional scales - Scale", which are scales with absolute "zero".

The indices showing moderate consistency among study subjects (10% < CV < 20%) are: BMI (kg/m²), cardiac function (HW), and the 5-minute endurance run (m).

The parameter exhibiting low uniformity (CV > 20%) is trunk flexibility. Although inter-individual variation within the sample set or population—particularly for the aforementioned parameter—is quite high, all sample means are sufficiently representative ($\varepsilon < 0.05$) to serve as a basis for subsequent analysis and evaluation.

The mean cardiac function index for first-year female students at the University of Danang was 11.38 (HW), classified as "poor" according to the Rufier assessment criteria. The mean BMI for first-year female students at the University of Danang was 19.50 kg/m², which is classified as "normal" according to World Health Organization (WHO) standards.

The statistical results regarding BMI classification (based on WHO standards) for first-year female students at the University of Danang are presented in Table 3.

Table 3: WHO BMI classification of first-year female students at the University of Danang

	Student	Obese		Normal weight		Underweight	
		Quantity	%	Quantity	%	Quantity	%
1	First year student (n = 1000)	18	1.80	655	65.50	327	32.70

Data in Table 3 show the WHO-based BMI classification for first-year female students at the University of Danang: 327 students (32.70%) were classified as underweight, 655 students (65.50%) as normal weight, and 18 students (1.80%) as obese.

3.3 Assessment of the physical fitness of first-year female students at the University of Danang based on the Ministry of Education and Training's physical fitness standards for students [9]

The study assessed the general physical fitness of 1,000 first-year female students (aged 18) from member institutions of the University of Danang who were taking physical education courses in accordance with Decision 53/2008/QĐ-BGDDT (regulations on the physical fitness assessment of pupils and students).

Four general physical fitness tests were selected for the assessment:

- **Mandatory tests:** Standing long jump (cm) and 5-minute endurance run (m).
- **Optional tests:** 30m high start sprint (seconds) and 4x10m shuttle run (seconds). The results are presented in Table 4.

Table 4: Results of the general physical fitness assessment of first-year female students at the University of Danang according to Decision 53/2008/QĐ-BGDDT

	Test	Good		Pass		Not Pass	
		Quantity	%	Quantity	%	Quantity	%
First-year student (n = 1000)	Standing long jump (cm)	518	51.80	434	43.40	48	4.80
	30m high start sprint (seconds)	472	47.20	511	51.10	17	1.70
	4x10m shuttle run (seconds)	494	49.4	370	37	136	13.6
	5-minute endurance run (m)	99	9.9	143	14.3	758	75.8
	Physical fitness classification	66	6.6	134	13.40	800	80.00

Data from Table 4 presents the general physical fitness assessment results for first-year female students at the University of Danang, conducted in accordance with Decision 53/2008/QĐ-BGDDT. Specifically, the standing long jump test recorded the highest proportion of "Good" ratings (51.80%), while the 30m sprint from a standing start showed the lowest proportion of "Not Pass" ratings (1.70%). In contrast, the 5-minute endurance run yielded the lowest proportion of "Good" ratings (9.90%) and the highest proportion of "Not Pass" ratings (75.80%). The remaining two tests—the 30m sprint and the standing long jump—resulted in ratings of "Good" and "Pass" (achieving over 95%). Overall physical fitness classifications were: Good (6.6%), Pass (13.40%), and Not Pass (80.0%).

4. Discussion

The study selected eight criteria to assess the physical fitness of female students at the University of Danang: standing height, BMI, cardiac function (HW), 30m high-start sprint, standing long jump, 4 × 10m shuttle run, 5-minute self-paced run, and standing trunk flexion. These criteria were determined through a process involving a literature review, expert consultation, and a test of consensus between two rounds of interviews. Combining theoretical foundations, expert opinions, and statistical validation ensured the scientific rigor and objectivity of the selection process while comprehensively reflecting the three components of physical fitness: morphology, function, and physical capacity. These results align with the Ministry of Education and Training's perspective on student physical fitness assessment as outlined in Decision No. 53/2008/QĐ-BGDDT [9], while also building upon existing domestic research regarding student physical fitness assessment [11–18].

Survey results from 1,000 female first-year students indicate that morphological and physical fitness metrics exhibit low to moderate coefficients of variation, reflecting a relatively high degree of homogeneity within the study sample. This suggests that the collected data are representative and sufficiently reliable to reflect the physical status of female students at the University of Da Nang. Notably, metrics such as height, 30-meter sprint speed, standing long jump performance, and motor coordination (shuttle run) show coefficients of variation below 10%; this aligns with the nature of these indicators, which are influenced more by genetic factors and biological development than by environmental conditions [7]. Conversely, the trunk flexibility index displays greater variation, reflecting individual differences in exercise habits, flexibility, and mobility—characteristics commonly observed among university students [8].

Regarding nutritional status, the mean BMI of female students was 19.50 kg/m², falling within the normal range according to WHO classification [1]. However, the data revealed that 32.7% of female students were underweight, whereas the prevalence of overweight and obesity was only 1.8%. These findings reflect the current nutritional profile of Vietnamese female students, where being underweight remains more common than being overweight. This may stem from unbalanced diets, academic pressure, dieting habits, or misconceptions regarding body image. A high prevalence of underweight status can also impact muscle strength, endurance, and the ability to adapt to physical

activity [1, 2]. Therefore, alongside promoting physical activity, universities should strengthen nutrition education and healthy lifestyle counseling for female students.

Notably, the cardiac function index (HW = 11.38) was classified as "poor" according to the Ruffier scale, reflecting limited cardiovascular adaptability to physical exertion. This result aligns with numerous studies on university students, which consistently identify cardiovascular endurance as the weakest component of physical fitness due to low physical activity levels and prolonged sedentary behavior [2,5]. These findings also support WHO recommendations noting a trend of declining physical activity among young people, particularly following the transition to a university environment characterized by high academic demands and increasing screen time [1].

Evaluation results based on Decision No. 53/2008/QĐ-BGDDT reveal distinct differences among physical fitness components. High pass and "good" rating rates were observed in the 30m high-start sprint, standing long jump, and 4 × 10m shuttle run, indicating that female students maintain relatively good levels of speed, leg strength, and agility. In contrast, 75.8% of students failed the 5-minute endurance run, resulting in 80% of female students receiving an overall fitness classification of "Not Pass". This suggests that the primary limitation for female students lies not in speed or strength, but in cardiovascular endurance. These findings align with numerous international studies indicating that endurance is the physical fitness component that declines most significantly among university students due to a lack of sustained physical activity and regular training [2, 5, 6].

From an educational management perspective, the research findings highlight the need to innovate the content and organization of physical education in universities. While current curricula primarily focus on completing course requirements, there is a need to shift toward fostering health and establishing lifelong physical activity habits among students. For female students, priority should be given to activities that enhance cardiovascular endurance—such as distance running, brisk walking, aerobics, swimming, or moderate-intensity sports—complemented by nutritional counseling and the creation of a learning environment that encourages physical activity. This approach aligns with WHO recommendations aimed at reducing sedentary behavior and improving the health of young people in educational institutions [1].

A novel aspect of this study is that, beyond merely assessing physical fitness against current standards, it simultaneously examines morphological, functional, and fitness indicators among a cohort of 1,000 female students from the University of Da Nang. This approach provides a more comprehensive picture of their physical status while establishing a scientific database to support health monitoring, the adjustment of physical education curricula, and the development of physical enhancement strategies tailored to the specific characteristics of female students within the context of Vietnamese higher education.

5. Conclusion

The study selected eight criteria to assess the physical fitness of female students at the University of Da Nang, encompassing morphological, functional, and physical performance indicators. A survey of 1,000 first-year female students revealed relatively high uniformity in height, speed, leg strength, and motor coordination, with an average BMI within the normal range. However, a significant proportion (32.70%) were underweight; cardiac function was rated as poor, and general endurance was notably limited. Specifically, 75.80% of students failed the 5-minute endurance run test, and 80.00% did not meet the general physical fitness standards set by Decision No. 53/2008/QĐ-BGDDT. The findings indicate a need to prioritize measures for enhancing cardiovascular endurance, improving nutrition, and increasing regular physical activity to boost the physical fitness of female students at the University of Da Nang.

Conflict of Interest Statement
The authors declare no conflicts of interest.

About the Author(s)
Nguyen Thanh Giang has been Teacher at School of Physical Education, Da Nang University, Vietnam.
Tran Huu Hung has been Vice Dean of the Faculty of Sports Management, Da Nang Sport University, Vietnam.
Nguyen Quang Vinh has been Vice Principal Ho Chi Minh City University of Physical Education and Sports, Vietnam.

References

1. World Health Organization. *WHO guidelines on physical activity and sedentary behaviour*. Geneva: World Health Organization; 2020. Retrieved from https://www.who.int/publications/i/item/9789240015128

2. Bull FC, Al-Ansari SS, Biddle S, Borodulin K, Buman MP, Cardon G, et al. World Health Organization 2020 guidelines on physical activity and sedentary behaviour. Br J Sports Med. 2020;54(24):1451-62. https://doi.org/10.1136/bjsports-2020-102955
3. Sallis JF, Owen N, Fisher EB. Ecological models of health behavior. In: Glanz K, Rimer BK, Viswanath K, editors. *Health Behavior and Health Education: Theory, Research, and Practice*. 4th ed. San Francisco: Jossey-Bass; 2008. p. 465-85. https://www.researchgate.net/publication/43508113_Ecological_Models_of_Health_Behavior
4. Guthold R, Stevens GA, Riley LM, Bull FC. Worldwide trends in insufficient physical activity from 2001 to 2016: A pooled analysis of 358 population-based surveys with 1.9 million participants. Lancet Glob Health. 2018;6(10):e1077-e1086. Retrieved from https://doi.org/10.1016/s2214-109x(18)30357-7
5. Keating XD, Guan J, Piñero JC, Bridges DM. A meta-analysis of college students' physical activity behaviors. J Am Coll Health. 2005;54(2):116-126. https://doi.org/10.3200/jach.54.2.116-126
6. Haase A, Steptoe A, Sallis JF, Wardle J. Leisure-time physical activity in university students from 23 countries: Associations with health beliefs, risk awareness, and national economic development. Prev Med. 2004;39(1):182-190. https://doi.org/10.1016/j.ypmed.2004.01.028
7. Malina RM, Bouchard C, Bar-Or O. *Growth, Maturation, and Physical Activity*. 2nd ed. Champaign: Human Kinetics; 2004. Retrieved from https://books.google.ro/books/about/Growth_Maturation_and_Physical_Activity.html?id=4g9ongEACAAJ&redir_esc=y
8. American College of Sports Medicine. *ACSM's Guidelines for Exercise Testing and Prescription*. 11th ed. Philadelphia: Wolters Kluwer; 2021. Retrieved from https://acsm.org/education-resources/books/guidelines-exercise-testing-prescription/
9. Ministry of Education and Training (2008), Decision No. 53/2008/QD-BGDDT dated August 19, 2008, on the standard physical evaluation criteria for Vietnamese, from which assessing the physical status of these students.
10. Duong Nghiep Chi et al. (2013), *"Physical fitness of Vietnamese people from 6 to 60 years old in the early 21st century"*, Physical Education and Sports Publishing House, Hanoi.
11. Hoang Ha (2016), *"Research on solutions to enhance the quality of physical education at member universities of Vietnam National University, Ho Chi Minh City,"* Doctoral dissertation in Educational Science, Vietnam Institute of Sports Science, Hanoi.
12. Nguyen Van Hoa (2016), "*Improving the curriculum of elective sports for non-specialized students at Can Tho University*", Doctoral Thesis in Educational Science, Sports University of Ho Chi Minh City.
13. Nguyen Ngoc Minh (2017), "Research on the type of physical education and sports clubs that operate effectively by the organization of the Center for Physical

Education and Sports of Hanoi National University," Doctoral thesis in Education, Institute of Physical Education Sciences.

14. Mai Van Ngoan (2024), *"Extracurricular Sports and Physical Activity Model for Students at Vietnam National University, Ho Chi Minh City,"* Doctoral Dissertation in Education, Ho Chi Minh City University of Physical Education and Sports.
15. Nguyen Do Minh Son (2025), *Solutions to enhance student satisfaction with physical education courses at Saigon University,* Doctoral dissertation in Education, Ho Chi Minh City University of Physical Education and Sports.
16. Dao Chanh Thuc (2020), "Building a sports and entertainment club model for students of An Giang University, An Giang Province, Doctoral Thesis in Education, University of Physical Education and Sports, Ho Chi Minh City.
17. Nguyen Huu Tri (2023), Research on building a sports club for NK students at Can Tho University, Ph.D. thesis in Education, University of Physical Education and Sports, Ho Chi Minh City.
18. Nguyen Anh Tuan and colleagues (2008), *Developing physical assessment standards for students 19 - 22 years old in City*. Ho Chi Minh, Project Department of Science and Technology of City. Ho Chi Minh.