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Physical and mental health status and physical activity needs among university students with poor health at Can Tho university

Le Phuong Hung[1], Phan Thanh My[2*], Ta Hoang Thien[3]
[1] Faculty of Physical Education, School of Education, Can Tho University, Vietnam
[2] Center for Physical Education, University of Finance – Marketing, Vietnam
[3] Department of Academic Affairs and International Cooperation, University of Sport Ho Chi Minh City, Vietnam
Corresponding Author: Phan Thanh My
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Abstract
Background: Students with low physical fitness may require differentiated physical education provision. Objective: To describe medical health classification, physical fitness, self-reported mental health indicators, and sports preferences among Can Tho University students with poor physical fitness. Methods: Dissertation-based descriptive analysis of an initial medical assessment (n = 1,900), a selected low-fitness subgroup (n = 160; 48 men and 112 women), and a multiple-response activity-preference survey in that subgroup. Results: Among 1,900 students, 1,784 (93.89%) were classified as having average medical health and four (0.21%) as having poor medical health. In the low-fitness subgroup, mean handgrip strength was 34.17 ± 5.66 kg for men and 22.86 ± 2.84 kg for women; five-minute running distances were 719.32 ± 125.61 m and 664.24 ± 87.59 m, respectively. Selected mental health item means ranged from 2.25 to 2.47 on the dissertation's five-category frequency scale. Among 160 students, aerobics (84.38%), badminton (78.13%), and chess (70.00%) were the most commonly selected curricular sports. Conclusion: Medical health categories and fitness performance captured different dimensions of student health. Findings support fitness-sensitive screening and student-informed physical education design; the self-report items do not establish psychiatric diagnoses.

Keywords: Physical fitness, psychological well-being, sports preferences, university students, physical education, Vietnam

Introduction

Physical education in higher education aims to support fitness, motor competence, participation in exercise, and broader student well-being. A uniform course structure can be difficult for students whose measured fitness falls below age- and sex-relevant benchmarks. Medical health screening and performance-based fitness assessment are also not interchangeable: students classified as medically healthy or average may still have limited strength, agility, flexibility, or endurance.

The dissertation conducted at Can Tho University addresses this issue through general health assessment, fitness testing, student surveys, and the development of educational measures for students described as having "poor health." In its detailed fitness analyses, however, the operational focus is students with low physical fitness. This distinction is maintained in the present article to avoid equating low test performance with a medical diagnosis.

The objective was to characterize (i) general medical health classification, (ii) physical fitness of the selected low-fitness subgroup, (iii) responses to mental health frequency indicators, and (iv) preferred physical education activities. Only descriptive and pre-intervention/baseline material is included; later intervention outcomes and post-intervention preferences are reserved for a separate effectiveness paper.

Materials and Methods

1. Design and study populations

This article is a secondary presentation of descriptive results contained in the doctoral dissertation of Le Phuong Hung. The dissertation reports an initial medical health survey of 1,900 students across several academic programs and a more detailed evaluation of 160 students identified through fitness-related criteria (48 male and 112 female). The original work also describes other survey samples for different study stages; the denominator is therefore stated separately for every analysis.

2. Medical health classification and fitness measures

Medical health status was grouped into five categories (I: very good; II: good; III: average; IV: poor; V: very poor) using the medical classification cited in the dissertation. The nine fitness measures were body mass index (BMI), a cardiovascular function index described in the dissertation as HW, sit-and-reach, dominant-hand grip strength, 30-second sit-ups, standing long jump, 30-m sprint, 4 × 10-m shuttle run, and five-minute run. Sex-specific benchmark values were reproduced from dissertation Tables 3.9–3.10; their applicability should be checked against the original standards before journal submission.

3. Mental health indicators

The dissertation developed a set of mental health-related questionnaire indicators with expert input and a five-point response format: 1 = very frequently, 2 = frequently, 3 = occasionally, 4 = rarely, 5 = never. The analysis here reports selected item codes and summary scores without treating the instrument as a clinical diagnostic tool. The complete item wording and validation documentation must be appended or supplied before external submission.

4. Physical activity behavior and preferences

The dissertation surveyed participation in extracurricular sport, exercise intensity and duration, and preferences for

sports offered in the curriculum. The preference survey permitted multiple selections; accordingly, percentages are calculated as the number selecting an activity divided by 160, not as a proportion of all selections.

5. Statistical approach and research governance

Reported means, standard deviations, counts and percentages were transcribed from the dissertation; no participant-level data were available for reanalysis. Percentages in the general health table were recomputed from reported counts to two decimal places. Ethics committee approval, consent procedure, exact data-collection dates, recruitment details, and the full eligibility algorithm were not identifiable with sufficient certainty from the material reviewed and require author confirmation before submission.

Results

1. Medical health classification

Table 1: Medical health classification in the initial sample (n = 1,900).

Medical category	N	%
I — Very good	0	0.00
II — Good	112	5.89
III — Average	1784	93.89
IV — Poor	4	0.21
V — Very poor	0	0.00
Total	1900	100.00

Source: dissertation Table 3.3; percentages calculated from n/1,900 (rounding may affect totals).

Most students were classified as having average medical health (93.89%). Only four students (0.21%) were assigned to the poor medical health category. These figures must not be interpreted as the prevalence of poor physical fitness, which was assessed separately.

2. Physical fitness in the selected subgroup

Table 2: Fitness indicators in the selected low-fitness subgroup (mean ± SD).

Indicator	Male (n=48)	Female (n=112)	Male benchmark	Female benchmark
BMI (kg/m²)	19.33 ± 2.18	18.19 ± 2.04	19 – 24.9	18.5-23.8
Cardiovascular function (HW)	11.30 ± 1.23	11.38 ± 1.23	6 - 10	6 - 10
Sit-and-reach (cm)	6.18 ± 4.23	4.47 ± 3.71	13	12
Handgrip strength (kg)	34.17 ± 5.66	22.86 ± 2.84	≥ 40,7	≥ 26,5
Sit-ups (30 s)	15.23 ± 3.28	13.95 ± 3.32	≥ 16	≥ 15
Standing long jump (cm)	168.55 ± 19.68	145.62 ± 15.64	≥ 205	≥ 151
30-m sprint (s)	6.93 ± 0.86	7.27 ± 1.08	≤ 5,80	≤ 6,80
4 × 10-m shuttle (s)	14.07 ± 1.63	15.57 ± 1.61	≤ 12,50	≤ 13,10
Five-minute run (m)	719.32 ± 125.61	664.24 ± 87.59	≥ 940	≥ 850

Source: dissertation Tables 3.9 - 3.10. Benchmarks are quoted as reported; HW scale and normative references require confirmation.

For both sexes, handgrip strength, standing long jump, running speed and five-minute endurance were less favorable than the benchmarks shown in the dissertation. Male five-minute running distance averaged 719.32 m against a stated 940-m benchmark; the corresponding female figures were 664.24 m and 850 m. This is a selected subgroup, so these means do not estimate fitness performance in all 1,900 students.

3. Mental health-related responses

Table 3: Selected mental health questionnaire items.

Item code	n	Mean	SD
TC1.1	160	2.3625	0.780
TC1.2	160	2.3313	0.774
TC1.3	160	2.2500	0.752
TC1.5	160	2.3563	0.746
TC1.6	160	2.3250	0.722
TC2.2	160	2.4250	0.865
TC2.6	160	2.4687	0.838
TC3.1	160	2.3812	0.717
TC3.5	160	2.3253	0.724

Source: dissertation Table 3.17 (descriptive statistics). Five-point frequency response; item labels are pending verification against the questionnaire.

The selected item means fell between 2.25 and 2.47, corresponding approximately to responses between “frequently” and “occasionally” on the stated coding scheme.

As the item wording and clinical cutoffs are not supplied here, these scores should be interpreted as descriptive response frequencies rather than a diagnosis or an overall validated mental health score.

4. Participation patterns and curricular sports preferences

In the dissertation's 160-student subgroup, 43/48 men (89.58%) and 101/112 women (90.18%) reported occasional extracurricular sports participation. Exercise was predominantly described as light intensity: 32/48 men (66.67%) and 109/112 women (97.32%). Less than 30 minutes per exercise session was reported by 35/48 men (72.92%) and 82/112 women (73.21%). These are self-reported behaviors, not device-measured activity.

Table 4: Preferred sports among the low-fitness subgroup (n = 160).

Curricular sport	Selections (n)	Students selecting (%)
Table tennis	11	6.88
Volleyball	15	9.38
Football	7	4.38
Basketball	9	5.63
Swimming	21	13.13
Badminton	125	78.13
Chess	112	70.0
Athletics	2	1.25
Taekwondo	45	28.13
Tennis	10	6.25
Aerobics	135	84.38

Source: dissertation Table 3.26. Multiple selections permitted; percentages are "percent of cases," not "percent of responses."

Aerobics was the most frequently selected sport (135/160, 84.38%), followed by badminton (125/160, 78.13%) and chess (112/160, 70.00%). These baseline preferences differ from the later, post-intervention preferences of 126 respondents reported elsewhere in the dissertation; the latter are intentionally excluded from the present descriptive paper.

Discussion

The results underscore a measurement distinction with direct implications for educational planning. A small proportion of the initial sample was classified as medically poor in health, while the dissertation identified a separate low-fitness group through performance measures. Medical categories alone therefore cannot substitute for functional assessment when deciding how to adapt physical education activities. Conversely, low physical fitness should not automatically be labeled a medical condition.

The selected subgroup showed unfavorable performance across several components, including strength, jumping, agility and endurance. These descriptive findings support the practical rationale for graduated exercise intensity, individualized performance expectations, and periodic fitness monitoring. They do not establish that a particular intervention improves outcomes, as no intervention effects were analyzed in this paper.

Questionnaire responses also point to the need to account for students' psychological experiences. The frequency scale and descriptive item means provide useful preliminary information, but item-level descriptions, psychometric evidence and appropriate interpretation thresholds are essential for stronger mental health conclusions. In particular, no claims about the prevalence of depression or anxiety can be made from these data alone.

The baseline sport preference survey offers actionable information for curriculum design. Aerobics, badminton and chess were commonly chosen among the existing sports, although preferences may reflect availability, familiarity and perceived demands as much as intrinsic motivation. Exercise behavior results further suggest that many participants were active only occasionally and at light intensity. Adapted, accessible opportunities may therefore be valuable, but the feasibility and safety of specific activities must be assessed individually.

Several limitations constrain inference. The sampling was not a probability sample of all university students; the low-fitness group was selected using study-specific criteria; activity was self-reported; the mental health questionnaire requires clearer documentation; and the reported results are descriptive. Some tables in the dissertation use different samples and time points. The present article intentionally separates the initial medical sample, the selected fitness subgroup and baseline preferences to avoid conflating their denominators.

Conclusions

At Can Tho University, most students in the initial medical survey were classified as having average health, while a separately selected group of 160 students exhibited low performance on several fitness indicators. Selected mental health questionnaire responses suggested recurring self-reported difficulties, without supporting clinical diagnoses. Among existing curricular sports, aerobics, badminton and chess attracted the greatest baseline interest. A differentiated physical education approach should combine fitness screening, careful interpretation of psychological indicators, and student-informed activity choices.

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References

1. World Health Organization. WHO guidelines on physical activity and sedentary behaviour. World Health Organization,2020. https://www.who.int/publications/i/item/9789240015128
2. World Health Organization. World mental health report, Transforming mental health for all. World Health Organization,2022.

https://www.who.int/publications/i/item/9789240049338
3. Biddle SJH, Asare M. Physical activity and mental health in children and adolescents, A review of reviews. British Journal of Sports Medicine,2011:45(11):886–895. https://doi.org/10.1136/bjsports-2011-090185
4. Warburton DER, Bredin SSD. Health benefits of physical activity, A systematic review of current systematic reviews. Current Opinion in Cardiology,2017:32(5):541–556. https://doi.org/10.1097/HCO.0000000000000437
5. Auerbach RP, Mortier P, Bruffaerts R, et al. WHO World Mental Health Surveys International College Student Project, Prevalence and distribution of mental disorders. Journal of Abnormal Psychology,2018:127(7):623–638. https://doi.org/10.1037/abn0000362