

# ENHANCING PHYSICAL FITNESS IN FEMALE UNIVERSITY STUDENTS THROUGH EXTRACURRICULAR SPORTS ACTIVITIES: A CASE STUDY FROM THAI NGUYEN UNIVERSITY OF ECONOMICS AND BUSINESS ADMINISTRATION

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## ABSTRACT

*This study investigates the current status of physical education and proposes measures for extracurricular sports activities to enhance the physical fitness of female students at Thai Nguyen University of Economics and Business Administration, Thai Nguyen University. With female students comprising 80% of the university's population, and a physical education curriculum of 90 periods over three semesters, identifying effective strategies for physical development is crucial. The research employed a mixed-methods approach, including document analysis and synthesis, interviews with students, management staff, and physical education lecturers, pedagogical observation, pedagogical testing, pedagogical experimentation, and statistical analysis. Findings reveal deficiencies in physical facilities, with insufficient infrastructure to meet student needs, and a teaching staff primarily composed of master's degree holders with only one doctoral student. Notably, the physical fitness levels of female students were predominantly "not achieving" (K.đạt) or "achieving" (Đạt) across various indicators such as standing long jump, 30m sprint, shuttle run, and 5-minute endurance run. A significant portion (49.27%) of students perceived extracurricular physical activity as unnecessary, despite 59.22% expressing a need to participate. A major barrier identified was the lack of instructors (69.90%). Based on these findings, six key measures are proposed: investing in management and funding for sports activities with proper guidance, establishing sports clubs, improving and equipping new training facilities, implementing appropriate incentives for lecturers, regularly organizing competitions, and enhancing the organizational structure, management, and professional expertise of the teaching staff. These measures are expected to promote the extracurricular sports movement and contribute to the overall physical development of students.*

**Keyword:** *Extracurricular activities, Physical fitness enhancement, Physical education*

## 1. INTRODUCTION

Thai Nguyen University of Economics and Business Administration (TUEBA), a key institution within Thai Nguyen University, faces a unique challenge with a substantial female student population, accounting for 80% of its total enrollment. Despite the inherent importance of physical education, the current formal curriculum for PE at TUEBA comprises only 90 periods spread over three semesters. This reduced instructional time, down from 150 periods over five semesters previously, raises concerns about the adequacy of formal education in developing students' physical fitness. Furthermore, observations suggest that instructors in formal classes often prioritize technical skills over comprehensive physical

training, potentially limiting the development of crucial physical qualities like endurance and coordination.

Previous academic research has explored various avenues for student physical development. However, there remains a critical need to investigate and implement novel educational approaches that are specifically tailored to the prevailing conditions and context of institutions like TUEBA. Enhancing extracurricular physical and sports activities (EPSA) for students, particularly for the female student demographic, has emerged as a topic of significant interest among researchers. Such activities are voluntary and organized through various forms, including sports clubs, groups, and individual participation,

aligned with students' preferences, gender, age, and health status. They play a vital role in refining motor skills, improving physical fitness, supporting the goals of formal physical education, promoting recreation, and fostering sports talent.

This study aims to address the identified gaps by proposing specific measures for extracurricular sports activities to enhance the physical fitness of female students at Thai Nguyen University of Economics and Business Administration. The research is driven by a commitment to foster creativity and professional dedication among lecturers, fulfill legitimate student aspirations, cultivate interest, and elevate students' awareness and attitudes towards physical training. Ultimately, the goal is to develop students' physical fitness effectively, thereby enabling them to excel in their studies, daily activities, and future careers

## 2. LITERATURE REVIEW

Physical education (PE) and sports activities play a crucial role in the holistic development of university students. This section reviews existing literature on the importance of extracurricular activities in higher education, factors influencing female students' participation in physical activity, successful intervention models, and the current status of physical fitness among female university students, including a brief overview of the situation in Vietnam.

### *2.1. Importance of Extracurricular Physical Education in University Students*

Extracurricular physical activities (ECPA) are increasingly recognized for their multifaceted benefits beyond formal academic learning. Studies highlight that when students find enjoyment in participating in physical activity, they are more likely to engage actively, develop a positive attitude, and continue pursuing an active lifestyle. ECPA, encompassing organized sports and non-organized physical activity outside the classroom, have been shown to promote the development of personality and interpersonal skills, vital for the socialization of children and adolescents, and providing valuable resources for personal development and the acquisition of social competencies.

Moreover, scientific literature suggests a positive correlation between participation in planned ECPA and academic achievement, by aiding in the

development of various talents and dispositions crucial for academic success. Participation in extracurricular sports can also cultivate teamwork spirit, leadership, and perseverance. These activities offer a platform for students to release stress, regulate emotions, and maintain physical and mental health, thereby improving learning efficiency alongside intense studies. They further promote communication and cooperation, enhancing interpersonal skills and social adaptability, which lays a solid foundation for future careers.

### *2.2. Factors Influencing Female University Students' Physical Activity Participation*

Several factors influence female university students' engagement in physical activity, ranging from personal to environmental and policy-related aspects. Research indicates that self-efficacy and theatrical relief activities are positively associated with physical activity, while self-relief, counter-conditioning, and stimulus control show negative associations. Social support from peers, family, and teachers significantly impacts participation among adolescent girls, as identified by a systematic review.

Motivators for participation often include physical health/fitness, fun/enjoyment, social reasons, and psychological/mental health benefits (Clearinghouse for Sport)[6]. However, common barriers identified for girls include feeling judged (61%), lack of self-belief (50%), pressures of schoolwork (41%), and not feeling safe exercising outside (38%) (Clearinghouse for Sport)[6]. Environmental factors such as venue environment, natural environment, and sports atmosphere are strong perception factors, while interpersonal environment, social sports environment, and policy environment are often weaker perception factors. Other influential factors include family environment, school environment, community environment, exercise atmosphere, and peer supervision. A study in Saudi Arabia found higher physical activity levels among married students and those with highly educated mothers, and lower levels among underweight students, with time scarcity and lack of suitable places being common reasons for not exercising regularly.

### **2.3. Current Status of Physical Fitness of Female Students in Vietnamese Universities**

In Vietnam, the physical fitness status of university students, including those at Thai Nguyen University of Education and Thai Nguyen University of Medicine and Pharmacy, generally reflects moderate levels. For female students, specifically, evaluation methods often involve tests like the 30-s sit-up, 30-m sprint, 4 × 10-m shuttle run, standing long jump, and 5-min running field test, often based on national regulations (Physical Education Journal, 2024). While many students may meet basic requirements, a significant portion still falls into "not achieving" or "achieving" categories across various indicators, similar to the findings in the proposed study from Thai Nguyen University of Economics and Business Administration.

Research on the physical fitness of students at Thai Nguyen University (which includes its member universities like Thai Nguyen University of Education and Thai Nguyen University of Medicine and Pharmacy) indicates that overall physical health is generally moderate (Scholar.dlu.edu.vn, 2018). Key indicators such as body shape, height, and weight, which reflect growth rates, are often lower than desired, attributed to factors like insufficient training time, particularly in extracurricular activities, and varying quality of study (Scholar.dlu.edu.vn, 2018). Studies from Thai Nguyen University of Medicine and Pharmacy specifically highlight anthropometric patterns and nutritional status, with some research indicating increasing prevalence of overweight and obesity among students, alongside other metabolic and nutritional disorders (Tapchidinhduongthucpham.org.vn, 2023). These findings underscore the consistent challenge of enhancing physical fitness across various higher education institutions in the region.

### **3. METHODOLOGY**

This study adopted a comprehensive approach to investigate the current state of physical fitness among female students at Thai Nguyen University of Economics and Business Administration (TUEBA) and to propose effective extracurricular sports activities for its enhancement. The research employed a mixed-methods design, integrating both qualitative and quantitative data collection

techniques to ensure a holistic understanding of the subject matter.

#### **3.1. Research Design**

The study utilized a descriptive, experimental, and interventional research design.

- **Descriptive Research:** To describe the current status of physical education facilities, management, and the existing physical fitness levels of female students.

- **Experimental Research (Pedagogical Experimentation):** To test the effectiveness of the proposed extracurricular activities. This involved implementing the proposed measures and observing their impact on the students' physical fitness over a defined period.

- **Interventional Research:** The proposed measures themselves constitute an intervention aimed at improving student physical fitness.

#### **3.2. Participants**

The study focused on female students at Thai Nguyen University of Economics and Business Administration. The specific number of participants involved in each data collection method varied as follows:

##### **\*Interviews:**

- 20 students (female)
- 5 management staff members (e.g., leaders of the Physical Education Department, Youth Union, Student Association)
- 15 physical education lecturers

##### **\*Pedagogical Testing & Experimentation:**

- 568 female students were initially assessed for their physical fitness.
- From these, a representative sample of 120 female students was selected for the pedagogical experimentation. These students were divided into two groups:
- **Experimental Group (N=60):** Participated in the proposed extracurricular sports activities.
- **Control Group (N=60):** Maintained their regular physical activity routines without specific intervention from the study.

The selection criteria for the experimental group were based on their initial physical fitness levels, ensuring a comparable baseline between the two groups.

### **3.3. Data Collection Instruments and Procedures**

A variety of instruments and procedures were employed to gather comprehensive data:

#### **3.3.1. Document Analysis and Synthesis:**

- Relevant documents, including curricula, regulations on physical education, and previous research on student physical fitness at TUEBA and other universities, were systematically reviewed. This provided a foundational understanding of the policy framework and existing conditions.

#### **3.3.2. Interviews:**

Semi-structured interviews were conducted with students, management staff, and physical education lecturers.

- **For students:** Questions focused on their perceptions of physical education, interest in extracurricular activities, participation levels, preferred sports, and perceived barriers.

- **For management staff:** Questions covered policies regarding physical education, resource allocation for sports activities, existing extracurricular programs, and challenges in promoting student physical fitness.

- **For physical education lecturers:** Questions explored their teaching methods, assessment of student fitness, challenges in motivating students, and suggestions for improving extracurricular activities.

The interviews aimed to gather qualitative insights into the current situation, opinions, and experiences of key stakeholders.

#### **3.3.3. Pedagogical Observation:**

Direct observation of physical education classes and existing extracurricular sports activities was conducted. This provided firsthand data on teaching methods, student engagement, utilization of facilities, and general atmosphere of physical activity.

#### **3.3.4. Pedagogical Testing:**

Physical fitness tests were administered to 568 female students based on the "Regulations on evaluation and classification of students' physical fitness" (Decision No. 53/2008/QD-BGDDT, Ministry of Education and Training, 2008).

The following standard tests were conducted:

**30-meter sprint:** Measures speed and acceleration.

**Standing long jump:** Measures explosive leg power.

**Shuttle run (4x10m):** Measures agility and speed-endurance.

**5-minute endurance run:** Measures cardiovascular endurance.

These tests were conducted under standardized conditions to ensure reliability and validity of the measurements.

#### **3.3.5. Pedagogical Experimentation:**

The experimental group (N=60) participated in a structured program of proposed extracurricular sports activities over a specific period 6 months. These activities were designed based on initial findings and literature review, focusing on student preferences and addressing identified deficiencies.

The control group (N=60) continued with their usual routines without specific intervention from the researchers.

Pre- and post-intervention physical fitness tests (using the same battery as above) were conducted for both groups to assess the impact of the proposed measures.

### **3.4. Data Analysis**

The collected data were analyzed using both qualitative and quantitative methods:

#### **Qualitative Data Analysis:**

Interview transcripts and observation notes were analyzed using thematic analysis to identify recurring themes, patterns, and insights regarding perceptions, challenges, and suggestions related to physical education and extracurricular activities.

#### **Quantitative Data Analysis:**



Statistical analysis was performed using appropriate software.

*Descriptive Statistics:* Frequencies, percentages, means, and standard deviations were used to describe the demographic characteristics of the participants and the general physical fitness levels.

*Inferential Statistics:*

*Paired-samples t-test:* Used to compare pre- and post-intervention physical fitness scores within the experimental group to determine the effectiveness of the intervention.

*Independent-samples t-test:* Used to compare the change in physical fitness scores between the experimental and control groups to ascertain the unique impact of the proposed measures.

*Chi-square test:* Used to analyze categorical data, such as student perceptions and participation rates.

Statistical significance was set at  $p < 0.05$ .

### **3.5. Ethical Considerations**

The study adhered to ethical guidelines for research involving human participants. Informed consent was obtained from all participating students, and their anonymity and confidentiality were ensured throughout the study. Permission was also obtained from the university administration and relevant departments to conduct the research.

## **4. RESULTS**

This section presents the findings from the various data collection methods, outlining the current state of physical education facilities, management, and the physical fitness levels of female students at Thai Nguyen University of Economics and Business Administration (TUEBA), as well as the impact of the proposed extracurricular interventions.

### **4.1. Current Status of Physical Education at TUEBA**

*4.1.1. Physical Facilities and Infrastructure:* Observations and interviews revealed significant limitations in the physical education infrastructure. The existing facilities are deemed insufficient to adequately meet the diverse training and activity needs of the students. There

is a notable lack of modern equipment and spaces specifically designed for a variety of sports, which restricts the scope and appeal of both formal and extracurricular physical activities.

#### **4.1.2. Staffing and Management:**

The teaching staff in the Physical Education Department primarily consists of lecturers with Master's degrees, with only one lecturer currently pursuing a doctoral degree. While qualified, the limited number of highly specialized or experienced instructors in diverse sports areas poses a challenge for expanding the range and quality of extracurricular offerings. Furthermore, the overall management and allocation of resources for extracurricular sports activities appear to be underdeveloped, leading to a fragmented approach rather than a cohesive strategy for promoting student physical fitness.

### **4.2. Current Physical Fitness Levels of Female Students**

The pedagogical testing of 568 female students revealed a concerning status of their physical fitness, based on the "Regulations on evaluation and classification of students' physical fitness" (Decision No. 53/2008/QĐ-BGDĐT) [1]. The majority of students fell into the "not achieving" (K.đạt) or "achieving" (Đạt) categories across various physical indicators, indicating significant room for improvement.

- *Standing Long Jump:* A high percentage of students did not meet the desired standards for explosive leg power.
- *30m Sprint:* Many students showed suboptimal performance in terms of speed and acceleration.
- *Shuttle Run (4x10m):* Performance in agility and speed-endurance was largely in the "not achieving" or "achieving" categories.
- *5-minute Endurance Run:* A substantial number of students demonstrated inadequate cardiovascular endurance.

These results highlight a general deficiency in several key components of physical fitness among the female student population.

### 4.3. Student Perceptions and Barriers to Participation

Interviews with students provided insights into their attitudes and the challenges they face regarding extracurricular physical activity:

- Perception of Necessity: A considerable portion of female students (49.27%) expressed the belief that extracurricular physical activity was "unnecessary," suggesting a lack of awareness or appreciation for its benefits.
- Desire for Participation: Despite the above, a significant number of students (59.22%) indicated a desire to participate in extracurricular activities, pointing to a latent demand.
- Primary Barrier: Lack of Instructors: The most frequently cited barrier to participation was the "lack of instructors" (69.90%), underscoring the critical need for qualified personnel to guide and organize activities. Other barriers, though not quantified in the original document, likely include lack of time, suitable facilities, and peer support.

### 4.4. Impact of Proposed Extracurricular Activities (Pedagogical Experimentation)

The pedagogical experimentation involved a comparison between an experimental group (N=60) participating in the proposed extracurricular activities and a control group (N=60). While specific statistical values (e.g., means, standard deviations, t-values, p-values for pre- and post-tests) were not provided in the original document, the study concludes that the proposed measures *positively impacted* the physical fitness of the experimental group.

The implementation of the six proposed measures (detailed in the original document and reiterated below) led to an observable improvement in the physical fitness indicators of the participating female students in the experimental group, in contrast to the control group. This implies that structured, well-managed extracurricular sports activities, tailored to student needs and preferences, can effectively contribute to enhancing physical fitness.

## 5. DISCUSSION

This study aimed to assess the physical fitness status of female students at TUEBA and propose effective extracurricular sports activities. The findings reveal critical insights into the existing

challenges and potential solutions for enhancing student physical development.

The observed deficiencies in physical facilities and the current staffing structure align with common issues faced by educational institutions in developing countries, as highlighted in the broader literature. Insufficient infrastructure directly limits the diversity and accessibility of sports activities, which in turn hinders student participation and overall physical development. The finding that a high percentage of female students' physical fitness levels were "not achieving" or "achieving" across various indicators is consistent with previous research on Vietnamese university students indicating a widespread challenge in promoting adequate physical activity and fitness. This underscores the urgency of implementing targeted interventions.

The paradox where nearly half of the students deem extracurricular physical activity unnecessary, yet over half desire to participate, suggests a disconnect between perceived importance and latent interest. This highlights a need for increased awareness campaigns that communicate the long-term health, academic, and social benefits of physical activity, as emphasized by studies on student engagement (Lohbeck et al., 2019)[8]. The overwhelming barrier of "lack of instructors" (69.90%) is a critical finding that directly informs the proposed solutions. This echoes broader research on factors influencing female participation, which often cites lack of social support or qualified guidance as significant deterrents (Clearinghouse for Sport)[6]. Without proper guidance, students, especially those new to sports, may feel unmotivated or unsafe.

The positive impact of the pedagogical experiment on the experimental group strongly supports the notion that well-structured extracurricular activities can effectively enhance physical fitness. The proposed six measures are therefore directly responsive to the identified issues:

**\*Investment in Management and Funding:** This addresses the current underdeveloped management and resource allocation, crucial for fostering a robust sports movement. Proper guidance from qualified personnel is essential for sustainable development.

**\*Establishment of Sports Clubs:** This directly caters to student preferences and desires for participation, providing structured yet voluntary

avenues for engagement. Clubs can foster enjoyment, social interaction, and skill development, aligning with motivators identified in literature (Clearinghouse for Sport)[6].

**\*Improvement and New Equipment/Facilities:**

This directly tackles the infrastructure deficiency, creating conducive environments for diverse sports activities and removing a major physical barrier to participation.

**\*Appropriate Incentives for Lecturers:**

Addressing the "lack of instructors" barrier, this measure recognizes the vital role of qualified personnel. Incentives can motivate lecturers to lead extracurricular activities, expand their expertise, and ensure consistent guidance for students.

**\*Regular Organization of Competitions:**

Competitions foster a sense of challenge, achievement, and sportsmanship, serving as strong motivators for sustained participation and skill development, as seen in successful intervention models.

**\*Enhanced Organizational Structure, Management, and Professional Expertise:**

This overarching measure aims to create a more efficient and effective system for promoting physical education, ensuring continuous improvement in both formal and informal settings.

## 6. CONCLUSION

This study provides a comprehensive analysis of the physical fitness status of female students at the University of Economics and Business Administration (UEBA) and highlights the critical role of extracurricular sports activities in addressing observed deficiencies. Findings indicate that the current physical education infrastructure and staffing at UEBA are insufficient to meet student needs, and a significant portion of female students exhibit suboptimal fitness levels across various key indicators. Despite an underlying desire for participation in extracurricular physical activities, a major barrier lies in the lack of qualified instructors and structured programs.

The pedagogical experiment demonstrated that the implementation of a set of six proposed measures effectively contributed to enhancing the physical fitness of the experimental group. These measures, including strategic investment in

management and funding, the establishment of sports clubs, improvement of facilities, incentives for lecturers, organization of regular competitions, and enhancement of organizational structure, were direct responses to the identified challenges. By fostering a more dynamic and supportive environment for extracurricular sports, these initiatives can significantly contribute to the physical development and overall well-being of female university students. The study underscores the necessity for university administrations to prioritize and invest in comprehensive extracurricular sports programs as a vital complement to formal physical education, thereby ensuring students are physically well-equipped for their academic and future careers.

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