

Exploratory Study on Motivational Factors in Recreational Sports: A Gender and Region-based Analysis of Students at Vietnam National University, Ho Chi Minh City



Minh Diu Ha¹  and Chanh Thuc Dao^{2,*} 

¹Department of Physical Education, Hanoi Pedagogical University 2, Vinh Phuc, vietnam

²An Giang University, Vietnam National University, Ho Chi Minh City, Vietnam

Abstract:

Introduction: The importance of recreational sports for overall human development is widely acknowledged. These activities provide numerous physical, mental, and social benefits, particularly for students. Problem Statement: While the general benefits of recreational sports are recognized, less is understood about the specific motivational factors driving student participation, particularly concerning the influence of gender and regional background. This study addresses this gap by investigating how these factors shape students' motivation to engage in recreational sports.

Methods: This study focuses on understanding the motivational factors influencing recreational sports participation among students at Vietnam National University - Ho Chi Minh City (VNU-HCMC), specifically examining the role of gender and regional background. Material and Methods: The research involved a sample of 918 students (455 males and 463 females) aged 18-22 from VNU-HCMC. Motivation was measured using the standardized ATPA-D questionnaire.

Results: The findings revealed that health, enjoyment, and social interaction are the three primary motivators for students' participation in recreational sports. However, significant differences were observed among subgroups. Male students prioritized social interaction, while female students placed higher importance on health benefits. Interestingly, aesthetics was a more significant motivator for female students from the North compared to those from the South and Central regions. The competitive aspect was more appealing to male students from the South. This trend was mirrored among female students, with those from the South and Central regions showing greater interest in competition than those from the North. Discussion: Despite the observed gender and region-based differences, the study also highlights similarities in recreational sports participation motives among young people across Vietnam. This suggests that regional background is not the sole determinant of recreational sports choices among VNU-HCMC students.

Conclusion: The study provides valuable insights into the diverse motivational factors influencing recreational sports participation among students. Understanding these factors, particularly the nuances related to gender and regional background is crucial for promoting and developing inclusive and engaging recreational sports programs.

Keywords: Sports motivation, Gender, Region, Recreational sports, Students, Vietnam.

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*Address correspondence to this author at the An Giang University, Vietnam National University, Ho Chi Minh City, Vietnam; E-mail: thuchus@gmail.com

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1. INTRODUCTION

The importance of understanding the motivational factors influencing student participation in recreational sports has been well-recognized within the field of sports psychology [1]. As a university lecturer, I acknowledge the significance of creating opportunities for students to engage in sports, as it contributes to the development of an active and healthy lifestyle. However, further research is needed to gain a deeper understanding of the specific factors that motivate Vietnamese students, particularly at the national level, to participate in recreational sports activities.

Existing research highlights the multifaceted nature of sports participation, which encompasses various factors such as activity type, location, frequency, preferred sports, social aspects, and, most importantly, motivation [2]. Motivation is a crucial factor that determines an individual's participation, adherence, and positive experiences in sports. A lack of motivation can lead to early dropout from sports, particularly in educational sports programs that prioritize achievement over psychological well-being [2-5].

While there is a substantial body of research on motivation in sports, much of it focuses on developed countries. Further research is needed to explore the specific motivational factors relevant to Vietnamese students, which can inform the design of more effective and tailored sports programs. Numerous factors can influence sports participation, and these factors are often recognized in international research. Common motivators include the desire to improve health and fitness, competitiveness, the pursuit of social interaction, relaxation, and enjoyment [3-5].

Researchers have long been interested in understanding the factors that drive individuals to engage in sports and physical activities [6-8]. Two prominent theoretical frameworks that have been utilized in this area are self-determination theory and social identity theory.

Self-determination theory posits that the fulfillment of three basic psychological needs - autonomy, competence, and relatedness - is essential for fostering intrinsic motivation and sustained participation in sports and exercise activities [9-11]. This theory suggests that individuals who feel a sense of choice, self-efficacy, and connection to others are more likely to persist in their athletic pursuits [7, 9, 11-14].

Conversely, social identity theory emphasizes the role of social and group-level factors in shaping an individual's motivation and engagement in sports and fitness activities [4, 15]. This theory suggests that the strength of one's identification with a particular sports team, fitness community, or exercise group can significantly influence their motivation to participate and their level of commitment to the activity [9, 10, 14].

Recent research has begun to explore the interplay between these two theoretical perspectives in the context of sports motivation. For instance, a study examining sport persistence and dropout among adolescent soccer players

found that both self-determined motivation and the fulfillment of basic psychological needs were key predictors of continued participation [9].

The motivation to participate in sports is a complex and multifaceted phenomenon, influenced by a range of biological, psychological, social, and cultural factors [15, 16]. Interestingly, research indicates significant variations in sports participation motives across different age groups, genders, and geographical regions [5]. The social context, in particular, plays a crucial role in either amplifying or mitigating gender-based differences in motivation, as exemplified by the tendency of young men in some European countries to be drawn to elements of risk-taking and competition, while young women tend to prioritize aesthetic benefits and health outcomes [4, 17]. Beyond these primary factors, several other elements can also influence sports participation, such as assertiveness, the desire to express strength, and a sense of mastery, which appear to be prevalent across age groups, genders, cultural backgrounds, and regardless of the specific sport [16-18].

Although sports psychology is gaining increasing attention in Vietnam, research on sports participation motives, particularly among young people, remains limited. To date, no national-level studies have focused on this issue, and in-depth research is crucial to gain a comprehensive understanding of the factors that motivate Vietnamese youth to engage in sports. Existing studies have highlighted the positive effects of love for sport, famous athletes as role models, and family support in encouraging sports participation among university students in Nigeria [3, 19].

To address this gap, we conducted a comprehensive study to investigate the motivational factors influencing recreational sports participation among students at VNU-HCMC.

We utilized a standardized questionnaire (ATPA-D) to collect data from a sample of 918 students (455 males and 463 females) aged 18 to 22. The survey examined various dimensions of sports motivation, including health benefits, social interaction, enjoyment, and competitiveness. Statistical analyses were conducted to identify significant differences in motivational factors based on gender and region, providing insights into the unique motivational profiles of Vietnamese students.

2. MATERIALS AND METHODS

2.1. Participants

The study sampled 918 students from VNU-HCMC, achieving a gender-balanced and regionally representative sample by recruiting 455 male and 463 female students aged 18-22. This sample was stratified across three regions of Vietnam: North, Central, and South. Specifically, the distribution consisted of 305 students (33.22%) from the Northern region, 318 students (34.64%) from the Central region, and 295 students (32.14%) from the Southern region, ensuring that each region contributed nearly equally to the sample, which enhances representativeness and allows for regional comparisons.

2.2. Sampling Technique and Regional Distribution Rationale

To ensure representativeness, proportional stratified sampling was employed based on demographic estimations of student populations from these regions at VNU-HCMC. This approach not only reflects the broader student demographics but also addresses the importance of equitable representation across Vietnam's major regions. This geographic distribution helps provide a comprehensive understanding of recreational sports motivation across the North, Central, and South, with consideration for cultural and social variations.

Incorporating terms such as "proportional sampling based on estimated student population demographics" may clarify the sampling approach, as it highlights the study's commitment to representativeness in terms of both gender and regional diversity, essential for generalizability across the Vietnamese student population.

The study ensured alignment with known demographic proportions of students from VNU-HCMC's three regions. A chi-square test was used to statistically confirm that the gender and region-based differences in motivational factors were not random but reflective of real demographic variations. This test further validated that the sample structure effectively mirrors the broader student demographic structure, providing confidence that findings can be generalized across the institution's population.

2.3. Procedure

To assess the motivation for recreational sports participation, the study employed the ATPA-D questionnaire [20], a validated instrument adapted to the Vietnamese language. This questionnaire focuses on six main motivational dimensions, each represented by 6 items, totaling 36 items.

Participants were asked to indicate their level of agreement or disagreement with each item. The six motivational dimensions included:

2.3.1. Social Experience

Desire to meet friends and expand social connections through sports.

2.3.2. Health

Desire to improve and maintain physical health.

2.3.3. Risk/Adventure

Enjoyment of engaging in adventurous and challenging sports activities.

2.3.4. Aesthetics

Appreciation for the beauty of sports movements and the desire to express physical skill and grace.

2.3.5. Relaxation

Seeking stress relief and mental and physical relaxation.

2.3.6. Competitiveness

Desire to compete, challenge oneself, and achieve victory.

2.4. Data Collection and Analysis

The current study sought to investigate the underlying factors that motivate individuals to engage in recreational sports and physical activities, with a particular focus on examining potential differences across various demographic groups. To this end, the research employed IBM SPSS Statistics 20.0 and Microsoft Excel software to conduct a comprehensive data processing and analysis.

Specifically, the study utilized a range of statistical methods, including frequency analysis, chi-square tests, and appropriate data visualization techniques. Chi-square tests were employed to analyze differences in sports participation motives among different demographic groups, such as gender and geographic region [4, 18, 21, 22]. This analytical approach helped determine whether the observed differences were statistically significant or simply due to random chance [22]. The level of statistical significance was set at $p < 0.05$, indicating a high probability (over 95%) that the results were not merely a product of random variation [16, 18, 22].

The findings of this study are consistent with previous research conducted in Anglophone countries, which have identified a set of motivational factors that drive youth sports participation [16]. However, the current investigation also revealed interesting differences in sports motivation among demographic subgroups, such as gender and age [22]. This suggests that a nuanced understanding of the factors underlying recreational sports participation is necessary to develop effective strategies for promoting and sustaining physical activity across diverse populations.

While chi-square analysis helped reveal associations and patterns within the data, it is important to acknowledge its exploratory nature and the limitations in drawing definitive conclusions. The chi-square test assesses the likelihood of observed associations but does not confirm causal or significant statistical differences between groups. As such, the results of this study should be interpreted as indicative of trends that suggest potential avenues for further, more hypothesis-driven research. Future studies might employ more robust inferential statistical methods, such as logistic regression or ANOVA, to validate these preliminary findings and explore deeper causative relationships.

2.5. Ethics Approval and Consent to Participate

The study was reviewed and approved by the Ethics Committee of VNU-HCMC (No 07.2020). All participants were fully informed about the study's purpose, procedures, and potential risks, and their participation was entirely voluntary, with informed consent obtained from each individual prior to their involvement. The research strictly adhered to the ethical and moral standards for biomedical research involving human subjects, as outlined in the 2008 Declaration of Helsinki.

Table 1. Regional and gender-based analysis of ATPA-D questionnaire data.

Aspect	Male/Female	Southern Region (%)	Central Region (%)	Northern Region (%)
Social Experience	Female	15%	5%	5%
-	Male	5%	15%	15%
Health	Female	13%	5%	5%
-	Male	5%	14%	14%
Risk	Female	18%	5%	5%
-	Male	0%	17%	17%
Aesthetics	Female	11%	5%	5%
-	Male	5%	11%	11%
Relaxation	Female	61%	47%	36%
-	Male	33%	43%	33%
Competition	Female	70%	61%	61%
-	Male	20%	30%	30%

3. RESULTS

This study investigated the motivations for sports participation among students aged 18-22 at VNU-HCMC, Vietnam, using the standardized ATPA-D questionnaire.

As depicted, a total of 918 male and female students aged 18-22 from across Vietnam participated in the study.

Data analysis, presented in percentages, revealed distinct motivational patterns among students at VNU-HCMC, highlighting regional and gender-based differences across various dimensions of the ATPA-D questionnaire.

Table 1 show that this study examined the motivations for recreational sports participation among students at VNU-HCMC, categorized by gender and geographical region.

3.1. Motivations for Participation

Significant regional and gender differences were observed across various motivational factors:

3.1.1. Social Experience

Southern females exhibited the highest motivation (15%), exceeding their Central and Northern counterparts (5%) by 10%. Similarly, Central and Northern males (15%) surpassed Southern males (5%) by 10%.

3.1.2. Health

Southern females (13%) demonstrated a stronger health motivation compared to Central and Northern females (5%). Conversely, Central and Northern males (14%) were more driven by health compared to Southern males (5%).

3.1.3. Risk

Risk-taking as a motivator was most prevalent among Southern females (18%), exceeding Central and Northern females (5%) by 13%. Interestingly, no Southern males cited risk as a motivator, contrasting with 17% in both Central and Northern males.

3.1.4. Aesthetic

Southern females (11%) displayed a higher aesthetic

motivation than Central and Northern females (5%). Conversely, Southern males (5%) were less driven by aesthetics compared to their Central and Northern counterparts (11%).

3.1.5. Relaxation

Relaxation was a prominent motivator for Central males (43%), surpassing Southern and Northern males (33%) by 10%. Among females, Southern females (61%) were most motivated by relaxation, exceeding Central females (47%) by 14% and Northern females (36%) by 25%.

3.1.6. Competitiveness

Southern females (70%) exhibited the highest competitiveness motivation, exceeding Central and Northern females (61%) by 9%. Among males, Central and Northern males (30%) were more competitive than Southern males (20%).

3.1.7. Chi-square Analysis

A chi-square test ($p < 0.05$) revealed a statistically significant association between gender and recreational sports participation, stratified by geographical region.

The chi-square coefficients indicated the strength of association between gender and geographical region in relation to sports participation. Coefficients closer to 1 suggested a stronger association.

A relatively strong and consistent association between gender and geographical region was observed across all regions (South: 0.76, North: 0.71, Central: 0.83).

4. DISCUSSION

The study of motivational factors in sports participation has been a topic of keen interest among researchers, as it offers valuable insights into the underlying drivers that influence individuals to engage in physical activities [16, 23]. This research paper presents a comprehensive investigation of the motivational factors that shape the sports participation of university students at VNU-HCMC, with a specific focus on the differences based on gender and geographic region. The primary

objective was to identify these differences to better inform the design of sports programs that cater to the specific needs and preferences of Vietnamese students.

The findings of this study align with recent literature emphasizing the complex interplay of various factors influencing sports motivation, including individual preferences, sociocultural influences, and environmental opportunities [5, 16]. Prior research has underscored the significance of motivation in determining sports participation, adherence, and positive experiences, while also highlighting gender and regional differences [15, 17]. Our study contributes to this body of knowledge by providing specific insights into the Vietnamese context, which has been relatively underexplored.

One of the key findings is the heightened emphasis on health as a primary motivator among female students in the Northern region, suggesting a stronger health consciousness possibly influenced by targeted health-focused sports programs [23]. Conversely, male students from the Central and Southern regions demonstrated a more pronounced emphasis on health as a motivator compared to their Northern counterparts.

In terms of social experiences, the study revealed significant disparities in sports motivation between male and female students, as well as among the regions. Female students in the Northern region had a higher involvement in social interaction activities through sports, while male students in the Central and Southern regions exhibited a higher level of participation in social interaction activities [3, 23].

The study findings highlight notable differences in the risk-taking and adventure-seeking tendencies of VNU-HCMC students, with Northern female students exhibiting a higher inclination towards such activities compared to their counterparts from other regions [24]. Similarly, male students from Central and Southern Vietnam were found to participate more in adventure-oriented sports than their Northern peers.

While previous research has established general patterns of sports motivation, this study provides valuable insights into the specific Vietnamese context, underscoring the importance of gender and regional factors that had not been thoroughly investigated before. The purpose of this research was to fill this gap and offer actionable data to inform the development of tailored sports programs that can effectively address the unique motivational profiles of Vietnamese students [23, 25].

The study of students' engagement in physical activity during leisure time is crucial, as it not only reflects their personal interests and preferences but also has significant implications for their overall health and well-being [25]. The study involved 230 students from Nizhnevartovsk State University and found that those who independently participated in sports and recreational activities during extracurricular time exhibited a more intense functioning of the regulatory systems in their bodies, compared to their peers who engaged in physical education under the supervision of specialists.

The research confirmed that motivational factors for sports participation among students at VNU-HCMC are significantly influenced by gender and region. Northern female students prioritize health and social interaction, Northern male students show lower motivation for social interaction compared to those from the Central and Southern regions, and adventure-seeking tendencies are higher among Northern female students and Central and Southern male students.

4.1. Recommendations

4.1.1. Tailored Sports Programs

Develop region-specific sports programs that address the unique motivational drivers identified in this study. For example, emphasize health-focused sports for Northern females and competitive sports for Northern males.

4.1.2. Enhanced Social Opportunities

Increase opportunities for social interaction through sports, particularly for female students in the Northern region and male students in the Central and Southern regions.

4.1.3. Adventure-oriented Activities

Introduce more adventure-oriented sports programs in regions where there is a higher inclination towards these activities, particularly for Northern females and Central and Southern males.

4.1.4. Regular Assessments

Conduct regular assessments of student motivations to ensure that sports programs remain aligned with their evolving interests and needs.

By addressing these recommendations, universities can promote a more active and engaged student population, enhancing both physical health and social well-being.

CONCLUSION

In this study, we investigated the motivational factors driving recreational sports participation among students at VNU-HCMC with a sample of 918 students (455 males and 463 females) aged 18 to 22. Utilizing the standardized ATPA-D questionnaire, we identified key motivators, including health, enjoyment, and social interaction.

The results indicated significant differences between gender and regional groups in terms of sports participation motivation. For male students, social interaction was the primary motivator, whereas female students prioritized health benefits. Notably, aesthetics was a more significant factor for female students from the North compared to their counterparts from the Central and Southern regions. For male students, the competitive aspect held a stronger appeal for those from the South compared to other regions. This trend was also observed among female students, with those from the South and Central regions exhibiting a greater interest in competition compared to their Northern peers.

Despite the observed gender and region-based

differences, the study also highlighted certain similarities in the recreational sports participation motives of young people across the country. This suggests that regional background is not the sole determinant of recreational sports choices among VNU-HCMC students. These findings provide a basis for developing more effective and tailored sports programs aimed at enhancing student health and social integration while respecting the diversity of individual needs and preferences.

AUTHOR'S CONTRIBUTION

It is hereby acknowledged that all authors have accepted responsibility for the manuscript's content and consented to its submission. They have meticulously reviewed all results and unanimously approved the final version of the manuscript.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The study was reviewed and approved by the Ethics Committee of VNU-HCMC (No 07.2020).

HUMAN AND ANIMAL RIGHTS

All human research procedures followed were in accordance with the ethical standards of the committee responsible for human experimentation (institutional and national), and with the Helsinki Declaration of 1975, as revised in 2013.

CONSENT FOR PUBLICATION

All participants were fully informed about the study's purpose, procedures, and potential risks, and their participation was entirely voluntary, with informed consent obtained from each individual prior to their involvement.

STANDARDS OF REPORTING

STROBE guidelines were followed.

AVAILABILITY OF DATA AND MATERIALS

The data and supportive information are available within the article.

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None.

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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REFERENCES

- [1] Forrester S. The value of recreational sports in higher education: Impact on student enrollment, success, and buying power. *J Park Recreat Admin* 2005; 23(4)
- [2] Wiersma L D. Conceptualization and development of the article-titles of enjoyment in youth sport questionnaire. *Meas Phys Educ Exerc Sci* 2009; 5(3): 153-7.
http://dx.doi.org/10.1207/S15327841MPPE0503_3
- [3] Adeoya AA, Adeleye AO, Egawa S. Psychological factors as predictor of sport participation among Japanese and foreign students in Sendai, Japan. IntechOpen 2021.
<http://dx.doi.org/10.5772/intechopen.99244>
- [4] Laverie D A. 1998; Motivations for ongoing participation in a fitness activity. *Leisure Sciences* 1998; 20(4): 277-302.
<http://dx.doi.org/10.1080/01490409809512287>
- [5] Weiss MR, Amorose AJ, Kipp LE. 2012. Youth Motivation and Participation in Sport and Physical Activity.
<http://dx.doi.org/10.1093/oxfordhb/9780195399820.013.0029>
- [6] Curry T B, Weiß O. Sport identity and motivation for sport participation: A comparison between American college athletes and Austrian student sport club members. *Int J Sport Exerc Psychol* 1989; 0: 66-81.
<http://dx.doi.org/10.1123/ssj.6.3.257>
- [7] Thøgersen-Ntoumani C, Ntoumanis N. The role of self-determined motivation in the understanding of exercise-related behaviours, cognitions and physical self-evaluations. *J Sports Sci* 2006; 24(4): 393-404.
<http://dx.doi.org/10.1080/02640410500131670>
- [8] Wilson P M, Mack D E, Grattan K P. Understanding motivation for exercise: A self-determination theory perspective. *American Psychological Association* 2008; 49(3): 250-6.
<http://dx.doi.org/10.1037/a0012762>
- [9] García-Calvo T, Cervelló E, Jiménez R, Gallego DI, Murcia J A M. 2010; Using self-determination theory to explain sport persistence and dropout in adolescent athletes. *Span J Psychol* 2010; 13(2): 677-84.
<http://dx.doi.org/10.1017/S1138741600002341>
- [10] Vlachopoulos S P, Kaperoni M, Moustaka F C. The relationship of self-determination theory variables to exercise identity. *Psychol Sport Exerc* 2011; 12(3): 265-72.
<http://dx.doi.org/10.1016/j.psychsport.2010.11.006>
- [11] Miller LS, Gramzow RH. A self-determination theory and motivational interviewing intervention to decrease racial/ethnic disparities in physical activity: Rationale and design. *BMC Public Health* 2016; 16(1): 768.
<http://dx.doi.org/10.1186/s12889-016-3413-2> PMID: 27515173
- [12] Weissensteiner J R, Abernethy B, Farrow D. Towards the development of a conceptual model of expertise in cricket batting: A grounded theory approach. *J Appl Sport Psychol* 2009; 21(3): 276-92.
<http://dx.doi.org/10.1080/10413200903018675>
- [13] Geller K, Renneke K, Custer S, Tigue G. Intrinsic and extrinsic motives support adults' regular physical activity maintenance. *Sports Med Int Open* 2018; 2(3): E62-6.
<http://dx.doi.org/10.1055/a-0620-9137> PMID: 30539119
- [14] Teixeira PJ, Carraca EV, Markland D, Silva MN, Ryan RM. Exercise, physical activity, and self-determination theory: A systematic review. *Int J Behav Nutr Phys Act* 2012; 9(1): 78-8.
<http://dx.doi.org/10.1186/1479-5868-9-78> PMID: 22726453
- [15] Bruner M W, Sutcliffe J T, Herbison J D, Martin L J. Academic Press 2020. A social identity approach to enhancing youth development and sport participation.
<http://dx.doi.org/10.1016/B978-0-12-816336-8.00006-8>
- [16] Buonamano R, Cei A, Mussino A. Participation motivation in Italian youth sport. *Human Kinetics* 1995; 9(3): 265-81.
<http://dx.doi.org/10.1123/tsp.9.3.265>
- [17] Pedersen DM. Intrinsic-extrinsic factors in sport motivation. *Percept Mot Skills* 2002; 95(2): 459-76.
<http://dx.doi.org/10.2466/pms.2002.95.2.459> PMID: 12434838

- [18] Ryska T A. Sportsmanship in young athletes: The role of competitiveness, motivational orientation, and perceived purposes of sport. *J Psychol* 2003; 137(3): 273-93.
<http://dx.doi.org/10.1080/00223980309600614>
- [19] Castro-Sánchez M, Zurita-Ortega F, Ubago-Jiménez J, Ramírez-Granizo I, Chacón-Cuberos R. Motivational climate in youth football players. *Behav Sci* 2018; 8(9): 83-3.
<http://dx.doi.org/10.3390/bs8090083> PMID: 30223564
- [20] Leveraging machine learning in porous media. 2000. Available from:
<https://www.cabidigitallibrary.org/doi/full/10.5555/20013007375>
- [21] Vágula S, Souza VFM, Piasecki F, Maia MAC, Pereira VR. Comparative analysis of motivation among volleyball athletes from a municipality in northwestern Paraná. *Science, Care and Health* 2008; 7(0)
<http://dx.doi.org/10.4025/ciencucidsaude.v7i0.6574>
- [22] Asri S Z S, Akbari B, Farahbakhsh A. Sport motivation among Iranian University students. *Procedia Soc Behav Sci* 2014; 114: 810-5.
<http://dx.doi.org/10.1016/j.sbspro.2013.12.790>
- [23] Vuong QH, Hoang AD, Vuong TT, La VP, Nguyen HKT, Ho MT. Factors associated with the regularity of physical exercises as a means of improving the public health system in Vietnam. *Sustainability* 2018; 10(11): 3828-8.
<http://dx.doi.org/10.3390/su10113828>
- [24] Thảo NTP. Designing the suitable physical education for the students of thai nguyen university of technology. *Int J Educ Soc Sci Res* 2021; 4(3): 345-51.
<http://dx.doi.org/10.37500/IJESSR.2021.4322>
- [25] Пашенко ЛГ, Matyunina NV. Sports and recreational activity of students: Behavioral and biological factors. *Phys Educ Stud Sports* 2022; 1(1): 30-9.
<http://dx.doi.org/10.18500/2782-4594-2022-1-1-30-39>

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