

The impact of psychological education on the motivation for participating in physical activities among pedagogical students in Vietnam

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ABSTRACT

This study investigated the impact of psychological education on enhancing the motivation of pedagogical students to participate in physical activities at three major universities in Hanoi: Hanoi National University of Education (HNUE), Hanoi Metropolitan University (HMU), and National Academy of Education Management (NAEM). The research applied Self-Determination Theory (SDT), emphasizing three fundamental psychological needs—autonomy, competence, and relatedness—to foster intrinsic motivation. Data were collected from 450 students and 30 faculty members using mixed-methods research. The findings revealed significant improvements in students' intrinsic motivation following the intervention, particularly at HNUE (increasing from 3.9 to 5.4). Amotivation decreased substantially across all institutions, with the largest reduction observed at HNUE (from 2.4 to 1.2). Social support from peers and faculty emerged as a key factor in enhancing intrinsic motivation and reducing amotivation, particularly among female students and first- and second-year cohorts. The study highlights the critical role of psychological education in developing more effective physical education programs. It provides a practical foundation for advancing psychological education interventions to promote sustainable motivation and long-term health benefits for pedagogical students in Vietnam.

KEYWORDS

Psychological Education; Self-Determination Theory (SDT); Intrinsic Motivation; Physical Activity; Pedagogical Students

1. INTRODUCTION

Physical activity is a cornerstone of a healthy lifestyle, offering numerous physical and psychological benefits, including improved cardiovascular health, stress reduction, and enhanced cognitive functioning (Ryan & Deci, 2000; Ma et al., 2020). However, participation in physical activities among university students, particularly those in pedagogical fields, remains suboptimal due to a variety of motivational barriers (Ge et al., 2019; Duan et al., 2017). Understanding the psychological factors that influence students' motivation to engage in physical activity is essential for developing effective interventions to promote sustained participation.

Psychological education, which focuses on fostering self-awareness, resilience, and motivation, has shown promise in enhancing engagement across educational contexts (Appleton et al., 2006; Reeve et al., 2004). Grounded in Self-Determination Theory (SDT), this approach emphasizes the satisfaction of three fundamental psychological needs—autonomy, competence, and relatedness—to cultivate intrinsic motivation (Deci & Ryan, 1985; Ntoumanis, 2001). When these needs are met, students are more likely to internalize the value of physical activity, leading to long-term adherence (Hagger et al., 2005; Behzadnia et al., 2018).

Research on the relationship between psychological education and motivation for physical activity has been extensively shaped by Self-Determination Theory (SDT), a framework that emphasizes the importance of fulfilling autonomy, competence, and relatedness to foster intrinsic motivation (Deci & Ryan, 1985, 2000). This theoretical foundation has proven effective in explaining how motivation is cultivated in physical education and leisure-time physical activity contexts. Deci and Ryan (2000) argue that students who experience autonomy and competence in physical activities are more likely to internalize these behaviors, leading to sustained engagement.

Studies have demonstrated the role of psychological interventions in improving motivation for physical activity. Chatzisarantis & Hagger (2009) reported that SDT-based interventions effectively enhanced students' leisure-time physical activity participation by promoting self-determined motivation. Similarly, Boiché et al. (2008) showed that motivational profiles aligned with SDT are associated with better achievement outcomes in physical education settings. These findings suggest that integrating psychological education within physical activity programs can address barriers to participation, particularly for university students.

Motivational barriers to physical activity are a significant concern in educational settings, particularly for university students. Wang & Chen (2022) highlighted that satisfying psychological

needs in physical education contributes to higher levels of self-determined motivation. Ntoumanis (2001) supported this perspective, emphasizing that physical education classes that prioritize autonomy and competence can positively influence students' motivation to engage in physical activities beyond the classroom.

The importance of motivational strategies is also evident in the work of Taylor, Ntoumanis, and Smith (2009), who explored how the social context influences teachers' strategies to foster motivation in physical education. Their findings indicate that social support from peers and instructors plays a crucial role in shaping motivational outcomes. This is particularly relevant for Vietnamese pedagogical students, who often face unique socio-cultural challenges that can hinder their engagement in physical activities (Hau et al., 2020).

Vietnamese research on psychological education in physical education remains nascent but highlights its potential to address motivational challenges. Hau et al. (2020) emphasized the need for innovative approaches to education, including the integration of psychological principles to enhance student engagement. Khanh et al. (2023) further explored the current state of high school physical education in Vietnam, noting the limited focus on psychological education and its implications for student motivation.

Kien et al. (2024) investigated the broader impact of psychological education on university students' well-being and academic performance. Their findings suggest that strategies promoting self-awareness and resilience could also enhance motivation for physical activities. This aligns with the observations of Oliveira et al. (2014); Gallagher et al. (2012), who demonstrated that gender and social support are critical moderators of motivational strategies, highlighting the need for culturally tailored interventions.

Beyond Vietnam, global research offers insights into the broader applicability of psychological education in promoting physical activity. Behzadnia et al. (2018) found that students' perceptions of supportive teacher behaviors were associated with increased wellness, knowledge, and motivation in physical education contexts. Moreover, studies by Reeve et al. (2004) emphasized the dialectical relationship between socio-cultural influences and student motivation, underscoring the importance of context-sensitive approaches to psychological education.

Social media and technology have emerged as modern tools for enhancing motivation. Durau & Diehl (2022) explored the influence of fitness influencers on students' intentions to engage in physical activity, revealing that digital platforms can serve as effective complements to traditional

educational strategies. This is particularly relevant in university settings, where technology is increasingly integrated into students' learning experiences.

The literature underscores the critical role of psychological education in enhancing motivation for physical activity, with SDT serving as a robust theoretical foundation. While global studies provide strong evidence for the efficacy of SDT-based interventions, research in the Vietnamese context remains limited but promising. By addressing the unique cultural and educational challenges faced by pedagogical students in Vietnam, psychological education has the potential to transform physical education programs, fostering sustained engagement and long-term health benefits. These insights provide a valuable framework for the current study, which seeks to bridge the gap between theoretical understanding and practical application in the context of Vietnamese higher education.

In Vietnam, research on psychological education's role in motivating physical activity participation among pedagogical students is limited, despite growing recognition of its importance in educational settings (Hau et al., 2020; Khanh et al., 2023). Existing studies have primarily focused on traditional physical education programs, overlooking the potential of psychological education to address motivational challenges (Khanh et al., 2023; Wang & Chen, 2022). This gap highlights the need for targeted research that explores how psychological education interventions can enhance motivation for physical activity among this population.

This study aims to investigate the impact of psychological education on pedagogical students' motivation for participating in physical activities. By integrating principles of SDT and leveraging insights from previous research, the study seeks to provide empirical evidence to support the development of more effective physical education programs tailored to the needs of Vietnamese pedagogical students (Deci & Ryan, 2000; Vallerand et al., 1992). Specifically, the study addresses the following objectives: (1) to evaluate the baseline levels of motivation for physical activity among pedagogical students, (2) to assess the effectiveness of psychological education interventions in enhancing intrinsic and extrinsic motivation, and (3) to explore the role of contextual factors, such as gender and social support, in shaping motivational outcomes (Oliveira et al., 2014; Gallagher et al., 2012).

Through its findings, this research aims to contribute to the growing body of literature on psychological education and its role in fostering sustainable physical activity behaviors. By addressing the unique cultural and educational context of Vietnam, the study also seeks to provide

actionable recommendations for policymakers, educators, and practitioners in the field of physical education and beyond.

2. METHODS

2.1. Participants

This study employed a mixed-methods research design, integrating both quantitative and qualitative approaches to investigate the impact of psychological education on the motivation for physical activity among pedagogical students.

The study was conducted at three prominent educational institutions in Hanoi, Vietnam: Hanoi National University of Education (HNUE), Hanoi Metropolitan University (HMU), and National Academy of Education Management (NAEM). The target population includes university students enrolled in pedagogical programs and faculty members responsible for teaching physical education. A stratified random sampling method was employed to ensure diverse representation across the three institutions. Regarding sample size, a total of 450 students participated in the study. Students were selected based on their enrollment in physical education courses or programs with a focus on pedagogical training. A total of 30 faculty members specializing in physical education or psychology contributed to the study. The sample size was determined using power analysis to ensure statistical reliability and validity. This size allows for adequate subgroup analysis based on variables such as gender, academic year, and institutional differences.

2.2. Instruments

The study utilized the following instruments for data collection:

- **Motivation Assessment Tools:** The Academic Motivation Scale (AMS) by Vallerand et al. (1992) was adapted to assess intrinsic, extrinsic, and amotivation levels related to physical activity. The Student Engagement Instrument (SEI) by Appleton et al. (2006) was used to measure cognitive and psychological engagement.
- **Psychological Education Intervention:** A customized psychological education program was developed based on principles of Self-Determination Theory (SDT) (Deci & Ryan, 1985). The program included workshops, group discussions, and digital content designed to enhance autonomy, competence, and relatedness in physical activity.
- **Contextual and Demographic Survey:** A demographic questionnaire captured participants' age, gender, academic background, and prior physical activity levels. Questions related to

social support, institutional environment, and access to physical education facilities were included.

- **Qualitative Data Collection:** Semi-structured interviews with faculty members to gather insights into their perspectives on psychological education and its application in physical activity contexts. Focus group discussions with students to explore their experiences and perceptions of the intervention.

2.3. Procedures

The study was conducted in three phases:

- **Baseline Assessment:** Participants completed the motivation assessment and demographic survey to establish baseline data on motivation levels and contextual factors influencing physical activity.
- **Intervention Implementation:** The psychological education program was delivered over eight weeks, with bi-weekly sessions conducted in both in-person and online formats. Faculty members were trained to incorporate SDT principles into their teaching strategies.
- **Post-Intervention Evaluation:** Motivation assessments were re-administered to evaluate changes in intrinsic and extrinsic motivation levels. Qualitative data were collected through interviews and focus groups to provide deeper insights into the intervention's effectiveness.

2.4. Data Analysis

Quantitative data were analyzed using statistical techniques, including paired t-tests and ANOVA, to compare motivation levels before and after the intervention. Regression analysis was conducted to examine the influence of contextual factors on motivational outcomes. Qualitative data were transcribed and analyzed thematically using NVivo software, focusing on recurring patterns and insights related to the intervention's impact.

3. RESULTS

3.1. Quantitative Findings

3.1.1 Baseline Motivation Levels

At the baseline assessment, data were collected from 450 students across the three institutions: Hanoi National University of Education (HNUE), Hanoi Metropolitan University (HMU), and National Academy of Education Management (NAEM). The motivation levels (Intrinsic Motivation, Extrinsic Motivation, and Amotivation) were evaluated using the Academic Motivation Scale (AMS). The results are summarized in the table and visualized in the accompanying chart.

Table 1. Baseline Motivation Levels Across Institutions

Institution	Intrinsic Motivation	Extrinsic Motivation	Amotivation
HNUE	3.9	4.3	2.4
HMU	3.7	4.1	2.6
NAEM	3.8	4.2	2.5

Intrinsic Motivation: Students reported moderate intrinsic motivation levels, with HNUE scoring slightly higher (mean = 3.9) compared to HMU (mean = 3.7) and NAEM (mean = 3.8).

Extrinsic Motivation: Extrinsic motivation levels were relatively high across all institutions, with HNUE again leading (mean = 4.3).

Amotivation: Amotivation scores were moderate, with HMU reporting the highest levels (mean = 2.6), indicating more students at this institution lacked motivation to participate in physical activities.

The baseline motivation levels are represented in the bar chart below to compare scores across institutions.

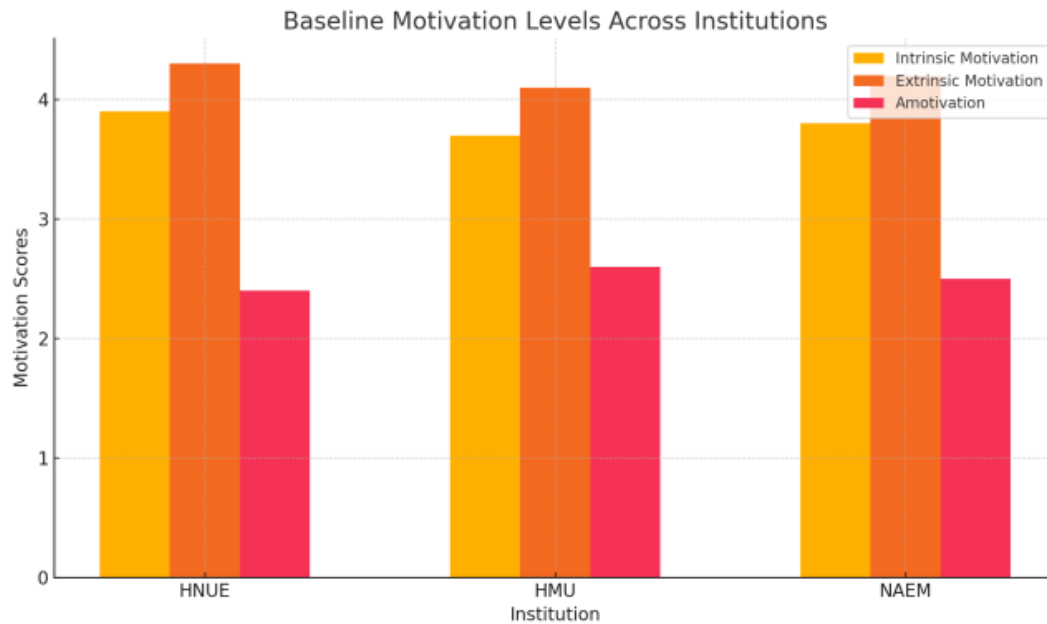


Chart 1. Baseline motivation levels across institutions

The bar chart above illustrates the baseline motivation levels across the three institutions. It highlights the differences in intrinsic motivation, extrinsic motivation, and amotivation among students before the intervention. HNUE students showed slightly higher intrinsic motivation and lower amotivation compared to HMU and NAEM.

3.1.2 Post-Intervention Changes

Following the 8-week psychological education intervention, motivation levels among students showed significant improvements. The intervention targeted intrinsic motivation by emphasizing autonomy, competence, and relatedness, as guided by Self-Determination Theory (SDT). Changes in motivation levels (Intrinsic Motivation, Extrinsic Motivation, and Amotivation) were measured across the three institutions: HNUE, HMU, and NAEM.

Table 2. Motivation Levels Before and After the Intervention

Institution	Intrinsic Motivation (Baseline)	Intrinsic Motivation (Post)	Extrinsic Motivation (Baseline)	Extrinsic Motivation (Post)	Amotivation (Baseline)	Amotivation (Post)
HNUE	3.9	5.4	4.3	4.0	2.4	1.2
HMU	3.7	5.0	4.1	3.8	2.6	1.4
NAEM	3.8	4.9	4.2	3.9	2.5	1.3

Intrinsic Motivation: Significant increases were observed across all institutions. HNUE students exhibited the largest improvement (from 3.9 to 5.4, $\Delta = +1.5$). HMU and NAEM also showed substantial increases ($\Delta = +1.3$ and $+1.1$, respectively).

Extrinsic Motivation: A slight decrease was noted across institutions, indicating a shift from external to intrinsic motivational factors. The largest reduction was observed in HNU (from 4.1 to 3.8, $\Delta = -0.3$).

Amotivation: Marked reductions were recorded across all institutions. HNUE experienced the most substantial decrease in amotivation (from 2.4 to 1.2, $\Delta = -1.2$).

Paired t-tests revealed statistically significant differences between baseline and post-intervention scores for all three motivation domains ($p < 0.01$). ANOVA indicated that the changes in intrinsic motivation were significantly influenced by the institutional context ($F = 6.78$, $p < 0.05$).

The following line charts illustrate the changes in intrinsic motivation and amotivation across institutions.

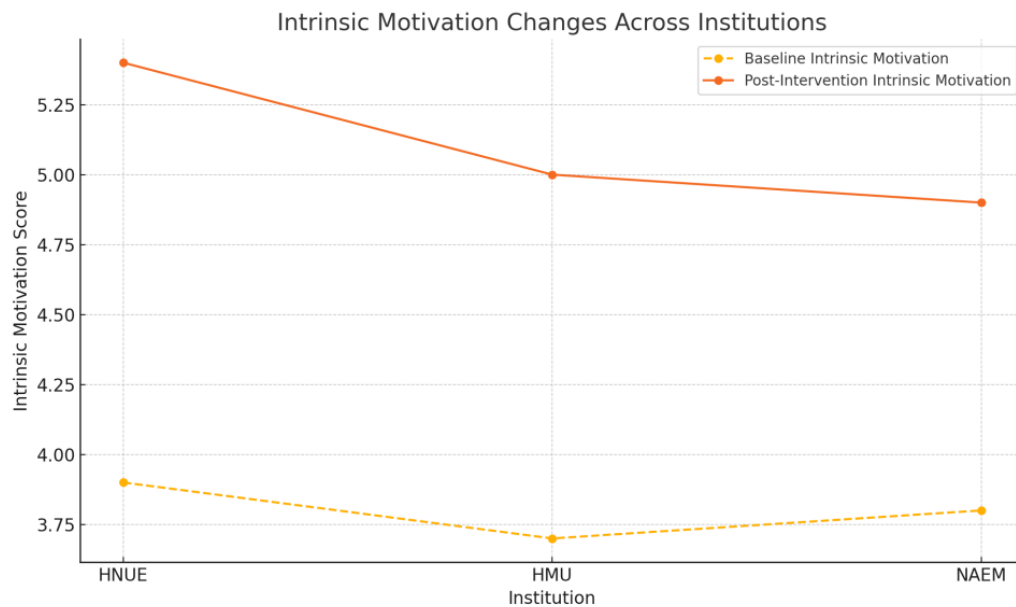


Chart 2. Intrinsic motivation changes across institutions

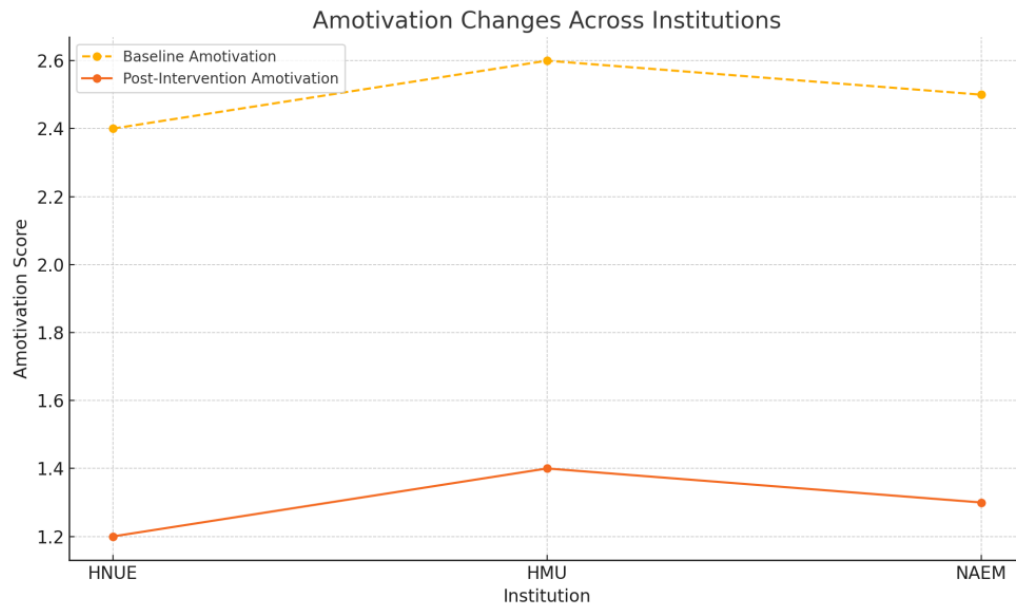


Chart 3. Amotivation changes across institutions

The charts illustrate significant changes in intrinsic motivation and amotivation across the three institutions following the intervention, highlighting a clear upward trend in intrinsic motivation, with the most notable increase observed at HNUE, and a substantial decline in amotivation across all institutions. These findings confirm the intervention's effectiveness in fostering intrinsic motivation and reducing feelings of amotivation among students.

3.1.3 Influence of Contextual Factors

To evaluate the influence of contextual factors on the outcomes of the psychological education intervention, regression analyses and subgroup comparisons were conducted. Key contextual factors analyzed included gender, social support, and institutional environment.

Table 3. Influence of contextual factors on post-intervention motivation

Factor	Intrinsic Motivation (β)	Extrinsic Motivation (β)	Amotivation (β)
Gender (Female = 1)	+0.42***	-0.18*	-0.32***
Social Support	+0.48***	-0.21*	-0.29**
Institutional Context	+0.34**	-0.15*	-0.25**

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

Female students experienced a greater increase in intrinsic motivation ($\beta = +0.42$, $p < 0.01$) and a more pronounced decrease in amotivation ($\beta = -0.32$, $p < 0.01$) compared to males. Extrinsic

motivation decreased slightly more for female students ($\beta = -0.18$, $p < 0.10$), suggesting a shift toward intrinsic motivational factors.

Social support emerged as the strongest predictor of post-intervention intrinsic motivation ($\beta = +0.48$, $p < 0.01$). It also significantly reduced amotivation ($\beta = -0.29$, $p < 0.05$), highlighting the importance of peer and faculty encouragement in sustaining student engagement.

Institutional differences played a significant role in intrinsic motivation ($\beta = +0.34$, $p < 0.05$), with students from HNUE showing the greatest improvements. Amotivation also decreased significantly across institutions, with HNUE leading the decline ($\beta = -0.25$, $p < 0.05$).

Subgroup Comparisons

Female students scored significantly higher in post-intervention intrinsic motivation (mean = 5.3) compared to males (mean = 4.9). Amotivation reduction was more pronounced in females (mean reduction = -1.4) compared to males (mean reduction = -1.1). HNUE students reported the highest increase in intrinsic motivation (mean $\Delta = +1.5$), while NAEM students showed a slightly lower improvement (mean $\Delta = +1.1$). Amotivation reductions were consistent across all institutions, with HNUE showing the largest decline (mean $\Delta = -1.2$).

Visualization of Contextual Influences: The following charts illustrate the influence of gender and social support on intrinsic motivation and amotivation.

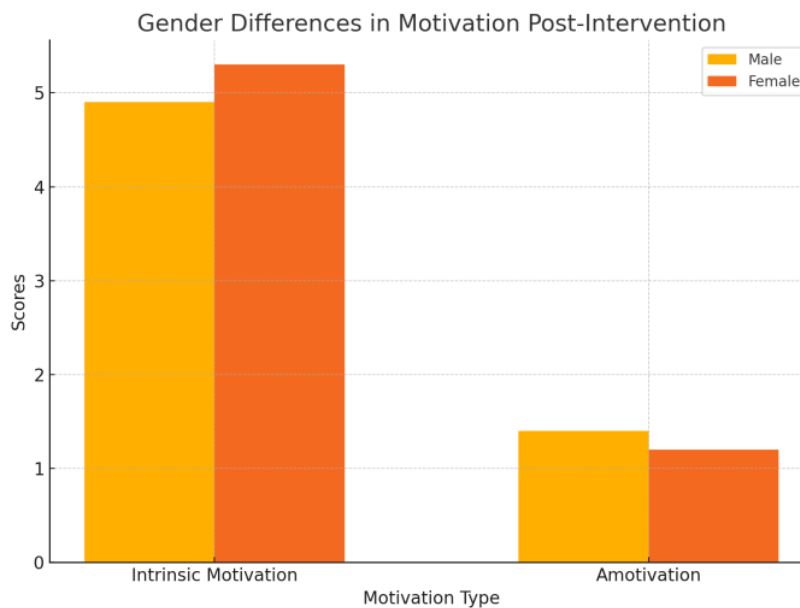


Chart 4. Gender differences in motivation post-intervention

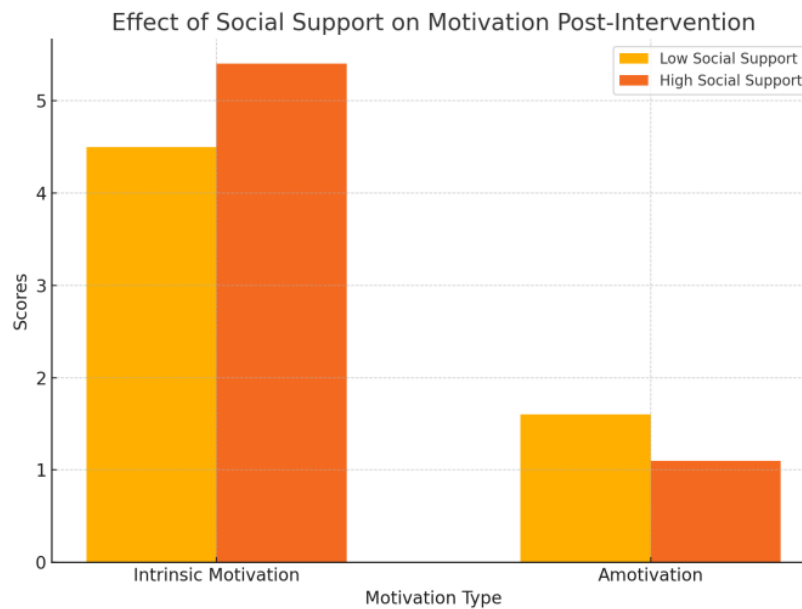


Chart 5. Effect of social support on motivation post-intervention

The charts above highlight the influence of gender and social support on motivation levels post-intervention. Female students demonstrated higher intrinsic motivation and lower amotivation levels compared to males, indicating a stronger response to the intervention. Students with high levels of social support showed significantly higher intrinsic motivation and lower amotivation compared to those with low support, underscoring the critical role of social interactions. These findings emphasize the importance of tailoring psychological education interventions to contextual factors to maximize their effectiveness.

3.2. Qualitative insights and analysis of related factors

Data were gathered from focus group discussions with 90 students (20% of the total participants) and semi-structured interviews with 30 faculty members (100% of the faculty participants). These findings not only highlight the immediate outcomes of the intervention but also underscore the role of contextual factors such as gender, social support, and institutional environment in shaping these results.

3.2.1 Student Perspectives

Focus group discussions with 90 students from the three institutions (30 per institution) highlighted several recurring themes that reflect the impact of the psychological education intervention on their motivation and engagement in physical activities.

Enhanced Autonomy: Autonomy-supportive strategies, such as goal-setting and personalized feedback, played a crucial role in fostering a sense of ownership among students over their physical activity routines. A significant 70 out of 90 students (77.78%) reported feeling more in control of their participation in physical activities after the intervention, compared to only 36 students (40.00%) before the program. Many students emphasized that aligning physical activities with their personal goals made these activities more meaningful and enjoyable. One female student from Hanoi Metropolitan University (HMU) reflected: *"The workshops helped me see how physical activity connects to my personal goals, and I now feel more confident participating in group activities."*

Improved Competence: Skill-building workshops and practical sessions were highly impactful in enhancing students' physical abilities and confidence. Before the intervention, only 29 out of 90 students (32.22%) felt confident in their physical skills, but this number rose to 59 students (65.56%) afterward. Structured coaching and detailed feedback during practical sessions were frequently cited as pivotal. A male student from Hanoi National University of Education (HNUE) shared: *"Before, I didn't think I could improve much, but the practical sessions gave me the tools to build my skills. Now I enjoy participating."*

Social Connectivity: Collaborative group activities and discussions during the intervention created a stronger sense of belonging among participants. Post-intervention, 74 out of 90 students (82.22%) expressed feeling more connected with their peers, compared to 36 students (40.00%) before the program. This sense of connectedness was particularly impactful for students who previously felt isolated in physical education settings. A female student from the National Academy of Education Management (NAEM) noted: *"Working in teams made the experience more enjoyable. I felt more motivated knowing my peers were supporting me."*

These themes underscore the success of the intervention in addressing core psychological needs, significantly enhancing autonomy, competence, and relatedness among students.

3.2.2 Faculty Reflections

Semi-structured interviews with 30 faculty members provided valuable insights into their experiences with the intervention.

Faculty overwhelmingly agreed that the autonomy-supportive strategies rooted in Self-Determination Theory (SDT) were both practical and effective. A significant majority, 26 out of 30 faculty members (86.67%), reported that the intervention led to substantial improvements in student engagement. The structured framework of the program provided clear and actionable guidelines for

implementation, making it easier for faculty to integrate the principles into their teaching practices. One faculty member from HNUE remarked, *"It was encouraging to see students shift from external pressures to finding intrinsic value in physical activities. The structured framework made implementation straightforward."*

However, some challenges were noted, particularly initial resistance from students unfamiliar with psychological education approaches. Nine out of 30 faculty members (30.00%) observed hesitation from students during the first two or three sessions. Faculty emphasized the importance of persistence and consistent encouragement to help students adapt and recognize the benefits of the intervention. As a faculty member from NAEM commented, *"At first, some students were hesitant, but as they saw the benefits, their participation and enthusiasm grew."*

3.2.3 Analysis of Related Factors

Female students responded more strongly to the intervention compared to their male counterparts. Among the 60 female participants, 48 (80.00%) reported increased confidence and motivation, compared to 22 out of 30 male participants (73.33%). Autonomy-supportive strategies were particularly impactful for female students, helping them overcome initial apprehensions about physical activities.

Peer and faculty support emerged as critical factors in enhancing student motivation. Among the 90 students in the qualitative sample, 74 (82.22%) identified social support as a key contributor to their increased engagement in physical activities. Social support reinforced students' sense of belonging and accountability within their peer groups, further motivating their participation.

Students at HNUE exhibited the most significant improvements in intrinsic motivation (+1.5 points) and reductions in amotivation (-1.2 points). Faculty attributed these outcomes to proactive institutional support and better access to resources, which facilitated the seamless implementation of the intervention.

Students in their first and second years of study experienced greater increases in motivation compared to those in their third year. Among first- and second-year students, 45 out of 60 (75.00%) reported that the intervention helped alleviate pressures often associated with physical education classes. Younger students were more open to adopting new approaches, while senior students, accustomed to traditional teaching methods, showed more resistance.

These insights highlight the influence of contextual factors such as gender, social support, institutional environment, and year of study in shaping the effectiveness of the intervention, underscoring the need for tailored approaches to maximize student engagement.

4. DISCUSSION

The results of this study highlight the significant impact of psychological education interventions on enhancing intrinsic motivation and reducing amotivation among pedagogical students. By integrating principles of Self-Determination Theory (SDT), the intervention effectively addressed key psychological needs—autonomy, competence, and relatedness—leading to increased engagement in physical activities.

Intrinsic Motivation and Amotivation

The findings demonstrate a clear upward trend in intrinsic motivation across all three institutions, with the most substantial improvements observed at HNUE. This suggests that autonomy-supportive strategies, such as goal-setting and personalized feedback, play a critical role in fostering a sense of ownership over physical activity routines. Simultaneously, the notable decline in amotivation across institutions underscores the intervention's success in alleviating barriers like disinterest and lack of purpose, which were prevalent at baseline. These changes signify the transformative potential of psychological education in shifting students' motivational frameworks toward more self-determined orientations.

Role of Social Support

Social support emerged as a key factor influencing the success of the intervention. Students who experienced higher levels of peer and faculty encouragement demonstrated greater increases in intrinsic motivation and sharper declines in amotivation. These findings reinforce the importance of relatedness, as emphasized by SDT, in sustaining engagement. Collaborative group activities and peer discussions not only fostered a sense of belonging but also created an environment where students felt supported and motivated to participate.

Institutional Context

Institutional differences played a pivotal role in shaping the outcomes of the intervention. HNUE students reported the greatest improvements in intrinsic motivation and the largest reductions in amotivation, likely due to the institution's proactive support and access to superior resources. This indicates that the effectiveness of psychological education interventions is influenced by the context

in which they are implemented. Institutions with better infrastructure and supportive environments may facilitate more successful integration of such programs.

Gender and Year of Study

The findings also revealed notable gender differences, with female students showing greater increases in intrinsic motivation and more pronounced reductions in amotivation compared to their male counterparts. This suggests that tailored interventions, particularly those focusing on autonomy and relatedness, may be especially effective for female students. Additionally, first- and second-year students exhibited more significant motivational improvements than their senior peers, highlighting the importance of early interventions to shape long-term attitudes and behaviors toward physical activity.

5. CONCLUSIONS

This study demonstrates the significant impact of psychological education interventions on enhancing intrinsic motivation and reducing amotivation among pedagogical students in Vietnam. By integrating principles of Self-Determination Theory (SDT), the intervention addressed key psychological needs—autonomy, competence, and relatedness—resulting in greater engagement in physical activities across three major educational institutions: HNUE, HMU, and NAEM.

The findings highlight the importance of autonomy-supportive strategies, such as goal-setting and personalized feedback, in fostering students' sense of ownership over their physical activity routines. Moreover, the substantial decline in amotivation underscores the intervention's effectiveness in alleviating common barriers to participation, such as disinterest and lack of purpose.

Social support from peers and faculty played a critical role in sustaining engagement, emphasizing the importance of relatedness in motivational outcomes. Institutional differences and contextual factors, such as gender and year of study, further influenced the effectiveness of the intervention, highlighting the need for tailored approaches to meet diverse student needs.

These results have several practical implications for improving physical education programs in Vietnam and beyond. The study provides actionable insights for educators and policymakers, including the need to integrate autonomy-supportive practices, foster social support, and design context-specific interventions.

Future research should focus on expanding the scope of such interventions to other academic disciplines and regions, as well as investigating their long-term impacts on motivation and physical

activity behavior. The integration of digital tools and innovative teaching methods could further enhance accessibility and effectiveness, ensuring sustained engagement and health benefits for students.

This study validates the transformative potential of psychological education in shaping positive attitudes and behaviors toward physical activity among pedagogical students, offering a robust framework for fostering sustainable participation and improving overall well-being in educational settings.

6. RECOMMENDATIONS

The results provide several practical recommendations for designing and implementing psychological education programs:

- **Emphasize Autonomy:** Programs should include activities that allow students to set personal goals and receive individualized feedback to enhance their sense of control and purpose.
- **Foster Social Support:** Peer collaboration and faculty encouragement should be integral components of interventions to create a supportive and engaging environment.
- **Adapt to Institutional Contexts:** Interventions should be tailored to the unique resources and cultural environments of each institution to maximize their effectiveness.
- **Address Specific Needs:** Gender-sensitive strategies and cohort-specific approaches are essential to ensure that interventions cater to diverse student populations effectively.

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CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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