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Travel Days and Study Nights: A Cross-Sectional Tripartite Analysis Toward Tertiary PE: An ABC Model Approach to Students' Engagement

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Abstract- This research study examined the relationship between the perceived affective, behavioural, and cognitive attitudes of university students towards Physical Education and participation in tertiary Physical Education. The development of the present study was anchored in the ABC Tripartite Attitude Model and multidimensional engagement theory with a quantitative descriptive-correlational study design. Data were gathered from 352 first-year undergraduate students enrolled in Physical Education classes in five universities using a structured self-report questionnaire. The affective, behavioral, and cognitive dispositions were assessed, as was multidimensional student engagement, using the instrument. Descriptive statistics, Pearson product-moment correlation, and multiple regression analyses were performed. Findings indicated a strong positive correlation between the total ABC dispositions and student engagement ($r = .694$, $p < .001$). All three attitude elements were found to have a significant relationship with engagement, of which affective disposition was found to have the widest standardised regression coefficient ($b = .41$, $p < .001$), followed by cognitive ($b = .29$, $p < .01$) and behavioral dispositions ($b = .21$, $p < .05$). These findings implicate the central role of the emotional experiences in understanding engagement outcomes and concur with the applicability of ABC Tripartite Attitude Model in tertiary Physical Education contexts in order to inform curriculum design, pedagogy, and institutional supports strategies in universities, and policy planning for student engagement improvement initiatives in universities globally.

Keywords: ABC Tripartite Attitude Model, Higher Education Curriculum, Learning Engagement, Physical Education, Student Disposition

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INTRODUCTION

Physical education (PE) is in a strange and increasingly neglected position in the contemporary university curriculum. While in primary or secondary school education, PE is mostly considered an integral section of holistic development and personal development, tertiary-level PE finds a teaching place hard to influence and does not exist as having a position that is peripheral and utilitarian, or where there is the least impact of PE in relation to the academic priorities (Trolian, 2023; Hobson et al., 2024). In spite of this ambivalence, universities continue to advocate for physical education, developing or maintaining it as an important vector for the support of physical activity, psychological well-being, and transferable competencies for the emerging adult (Kljajevic et al., 2021; Han et al., 2025). The push and pull between institutional imperatives and student responses has led to an increased scholarly interest in understanding how and why university students learn in physical education learning experiences. Student engagement has been an integral theme in research on higher education because it is positively linked to quality of learning, persistence, and developmental outcomes (Trolian, 2023; Guo et al., 2025). Contemporary scholarship conceptualizes engagement in multidimensional forms, with these dimensions being mostly concerned with behavioural participation, affective/emotional involvement, and cognitive investment in learning activities (Stringfellow et al., 2024; Guo et al., 2025). Whilst such a tripartite definition is quite well established in general-education literature, its application in the context of tertiary physical education is relatively underdeveloped and fragmented (Leo et al., 2022; Zhang et al., 2025). Within the field of physical education, engagement has on many occasions been operationalized at the narrowest level through indicators of actual participation (e.g., attendance, participation rates, physical activity levels, and so on) (Kljajevic et al., 2021; Nie, 2024). Although such metrics are important, there is not a lot of insight available on what people are experiencing, motivations, and internal orientations towards learning. Recent research has indicated that behavioral compliance with PE requirements is likely to occur with cognitive disengagement or affective (less regard) by students, particularly in university settings when participation is mandatory and personal values are not placed on it (Wang et al., 2024; Yu et al., 2025). This type of pattern highlights the need for frameworks to monitor not only what students do when engaging in physical education, but also how they feel and make judgments about what to do in PE. Attitude toward physical education is an important but understudied antecedent of participation in tertiary PE. Attitude has been conceptualized in many ways, comprising a tripartite (ABC) model, in which affective elements (emotions and feelings related to PE), behavioural elements (action tendencies and participation intentions), and cognitions (beliefs, values, and perceived relevance of PE) are distinguished. In the context of university, students' attitudes towards PE are fostered by students' previous experience in school PE, perceived value of studies, teaching methods, and expectations for PE and physical activities in adult life (Hobson et al., 2024; Qin et al., 2024).

Empirical research suggests that negative or ambivalent attitudes, especially in cognitive and affective aspects, are related to low motivation, shallow participation, and low intention to be physically active besides the official coursework (Behzadnia, 2021; Fierro-Suero et al., 2023). On the other hand, positive emotional experiences, functional fitness, and autonomy, as learning environments, have been identified as promoting enjoyment, involvement, and persistence in physical education (Huhtiniemi et al., 2022; Leo et al., 2022). These results suggest that participation in PE is not a mere characteristic of the instructional design, but is determined by the deep attitudinal structure of students. Recent research has started to examine the relationships between pedagogical models, motivational climates, and individual aspects of involvement in PE (i.e., timidity and excitement, enjoyment, and competition). Based on self-determination theory, autonomy support, competence satisfaction, and relatedness are among the most important social environments to produce affective and long-lasting engagement (Behzadnia, 2021; Guo et al., 2025). Similarly, research that concentrates on sport education models, blended and gamified learning settings, and meaningful PE experiences indicates positive effects on students' emotional response, behavioural involvement, and learning orientations (Choi et al., 2021; Blain et al., 2022; Yu et al., 2025). However, much of this literature considers

engagement outcomes in isolation without making clear connections to the mechanisms that came before and influence engagement.

A large gap thus still exists in the literature: The absence of integrative empirical models that systematically relate the multidimensionality of students' tripartite attitudes towards physical education to their multidimensional engagement in a tertiary PE context. While affective enjoyment has been related to participation (Huhtiniemi et al., 2022), and the cognitive understanding of value has been related to intention to be physically active (Behzadnia, 2021; Fierro-Suero et al., 2022), there is little work to examine the relationship between affective, behavioural, and cognitive attitudes in the same analytical context of the collective activity (Stringfellow et al., 2024; Zhang et al., 2025). This gap is of special consequence in higher education (where the choice of what to learn is more closely tied to students' autonomy, and disengagement is possibly more subtle - i.e., expressed through compliance, with little commitment) (Trolian, 2023; Wang et al., 2024). University students also go through a critical developmental period from externally organized schooling to self-regulated adult lives, in which tertiary PE would be an important context for the development of long-term habits of physical activity, as well as dispositions towards and away from health (Kljajevic et al., 2021; Han et al., 2025). As such, the idea of understanding engagement within this period of transition requires going beyond surface-level indicators to a complex exploration of how students are feeling, thinking, and doing in relation to PE learning environments. In light of these gaps, the current study is a Tripartite Analysis Towards Tertiary Physical Education by examining the ties amongst affective, behavioural, and cognitive attitudes (ABC model) and engagement of students in university physical education. In bringing together attitudinal theory and models that have been emerging in the field of engagement in education, this investigation aims to create a more holistic explanation model of engagement that encapsulates the psychological, behavioral, and meaning-oriented dimensions of the student experience (Wang et al., 2024; Stringfellow et al., 2024). Specifically, the aims of the study are to: (1) examine affective, behavioral, and cognitive attitudes to physical education among university students, (2) examine students' engagement in corresponding engagement dimensions, and (3) analyze the predictive association of tripartite attitudes with engagement in tertiary physical education contexts. By locating the engagement of students within the attitude context, this study is meaningful to the literature in three major aspects: First, it increases the integration of the theory by connecting the ABC attitude theory and the multidimensional engagement theory in higher education PE. Second, it offers empirical insight into the most salient components of what constitutes attitudes that have an impact on engagement and learning about target pedagogical and curricular interventions (Leo et al., 2022; Zhang et al., 2025). Finally, it echoes calls for evidence-informed change that remain being heard in the physical education subject area in our universities (Blain et al., 2022; Trolian, 2023) while, as Lobo (2024) has also argued, that the academic standpoint needs to be brought to the cutting edge in all classrooms (Richards, Kimberly, & Greher, 2022a.) Ultimately, this study emphasises the importance of an important premise in which the best way to improve engagement in tertiary physical education cannot be achieved by improving activity and compliance. However, instead, it has to do with changing the way that physical education is perceived, experienced, and valued by students as an integral part of their higher learning and lifelong development.

LITERATURE REVIEW

Conceptual and Theoretical Underpinnings of the Perceived ABC Tripartite Model

The current research is conceptually based on the ABC Tripartite Model of Attitude, which states that attitudes are multidimensional constructs consisting of the affective, the behavioral, and the cognitive components. This model is a good foundation for understanding how a person judges and responds to actions in learning settings, in this case, education settings where engagement is manifested both in an underlying psychological state and in a behavioral outcome (Wang et al., 2024; Nie, 2024). Within the context of tertiary physical education (PE), where participation is potentially compulsory, but engagement is variable, an ABC model, through which students' perceptions could be scrutinized in relation to outcomes on engagement, has profiled a theoretically coherent framework. At the conceptual level, the affective component involves students' emotional responses to physical education, and it includes such feelings as

enjoyment, interest, anxiety, or boredom. These feelings are important as they affect the students' immediate reactions towards PE experiences and their intentions to exert themselves towards learning activities. Empirical findings have shown, among other things, that positive affective effects in physical education, such as feelings of enjoyment and satisfaction, are also associated with increased levels of engagement, persistence, and intention to maintain being physically active, and vice versa (Huhtiniemi et al., 2022; Fierro-Suero et al., 2023). As a result, an affective attitude plays the role of a gate through which emotions are circulated that foster or hinder engagement. The behavioral component of the ABC model involves the action tendencies and participation patterns of students in physical education. It can be seen in students' attendance, work effort, compliance with tasks, and willingness to participate in activities. However, behavioral attitude is no longer an expression of external control, but rather an enacted expression of underlying affective and cognitive evaluations. In the context of higher education PE, behavioral participation may manifest itself without any associated emotional or cognitive investment and thus engagement at the surface level (Wang et al., 2024; Yu et al., 2025). Accordingly, behavioural attitude is conceptualized in the current study, not as an isolated outcome, but as a mediating factor in the translation of internal perceptions into action. The cognitive component in turn involves students' beliefs, values, and the perceptions of the relevance of PE within the overall academic and life context. Cognition is a decisive factor in tertiary PE due to increased appraisal of learning experiences by university students in terms of perceived utility, meaning, or personal goal congruence. Research indicates that when students cognitively recognize the value or utility of PE as knowledge-based, relevant, and positive for health and well-being, there is a greater likelihood that they will have more complex engagement in learning and sustained participation (Behzadnia, 2021; Nie, 2024). On erroneous grounds- that is, if time PE is regarded as unimportant or unconnected to the idea of academic identity- cognitive disengagement could occur even with concordant behavioral compliance (Hobson et al., 2024).

From a theoretical point of view, the ABC Tripartite Model is consistent with the Self-Determination Theory (SDT) as it focuses on autonomy, competence, and relatedness in motivation and engagement. Specifically, while affective attitudes are related to emotional regulation and intrinsic motivation, behavioural attitudes are associated with autonomous and controlled forms of action, and cognitive attitudes are related to internalized values and self-endorsed beliefs (Behzadnia, 2021; Guo et al., 2025). Thus, the ABC model operationalizes the principles of SDT in terms of the ways in which psychological needs are expressed in the emotional, behavioural, and cognitive orientations of students to physical education. Moreover, the model is theoretically supported by multidimensional engagement theory, which conceptualizes engagement as an interactive set of affective, behavioural, and cognitive aspects rather than individual components of engagement. Current interaction research in postsecondary higher education suggests that sustainable interaction linking emotional interest, significant involvement, and intellectual investment is created through reflection (Trolian, 2023; Stringfellow et al., 2024). Accordingly, this study conceptualizes engagement as an outcome that is structurally aligned (and theoretically predicted) by the tripartite elements of attitude. Importantly, the 'perceived' dimension of the ABC tripartite model is central in this study. Perception emphasizes the subjective interpretations of the student's perceptions about his or her experiences in PE rather than emphasizing the objective instructional features. Prior research shows that students' perceptions of teaching behaviours, motivational climate, and relevance of learning have a greater influence on engagement than instructional design itself. (Leo et al. 2022; Zhang et al. 2025) Therefore, this study takes into consideration affective, behavioural, and cognitive attitudes as perceived psychological constructs that mediate between the learning environment and engagement outcomes. Bringing together such perspectives, this is the conceptual framework underlying the present study that assumes that affective attitude has an impact on engagement through the process of emotional responsiveness, cognitive attitude has an impact on engagement through the processes of value internalisation and meaning making, and behavioural attitude reflects the enactment outcome process by both internal processes. Rather than having a linear impact, these components are assumed to have a synergistic relationship whereby the absence of one can compromise global engagement even in the presence of the others (Wang et al., 2024; Stringfellow et al., 2024). This integrative assumption is especially important within the field of tertiary PE because the increase in students' autonomy and self-regulation suggests the importance of the role of internal attitudes in shaping engagement trajectories. Altogether, the Perceived ABC Tripartite Model offers a theoretical base and conceptually valid foundation for student engagement within a tertiary physical education analysis. By synthesising attitude theory, self-thrust theory and multidimensional engagement frameworks, the model allows for a holistic study of engagement as students' emotions, beliefs and action tendencies work together. Consequently, this framework is adopted to further the goal of the present study, i.e., to move beyond surface-level indicators of participation and towards a much deeper understanding of the psychological mechanisms that contribute towards meaningful and sustainable participation in university physical education.

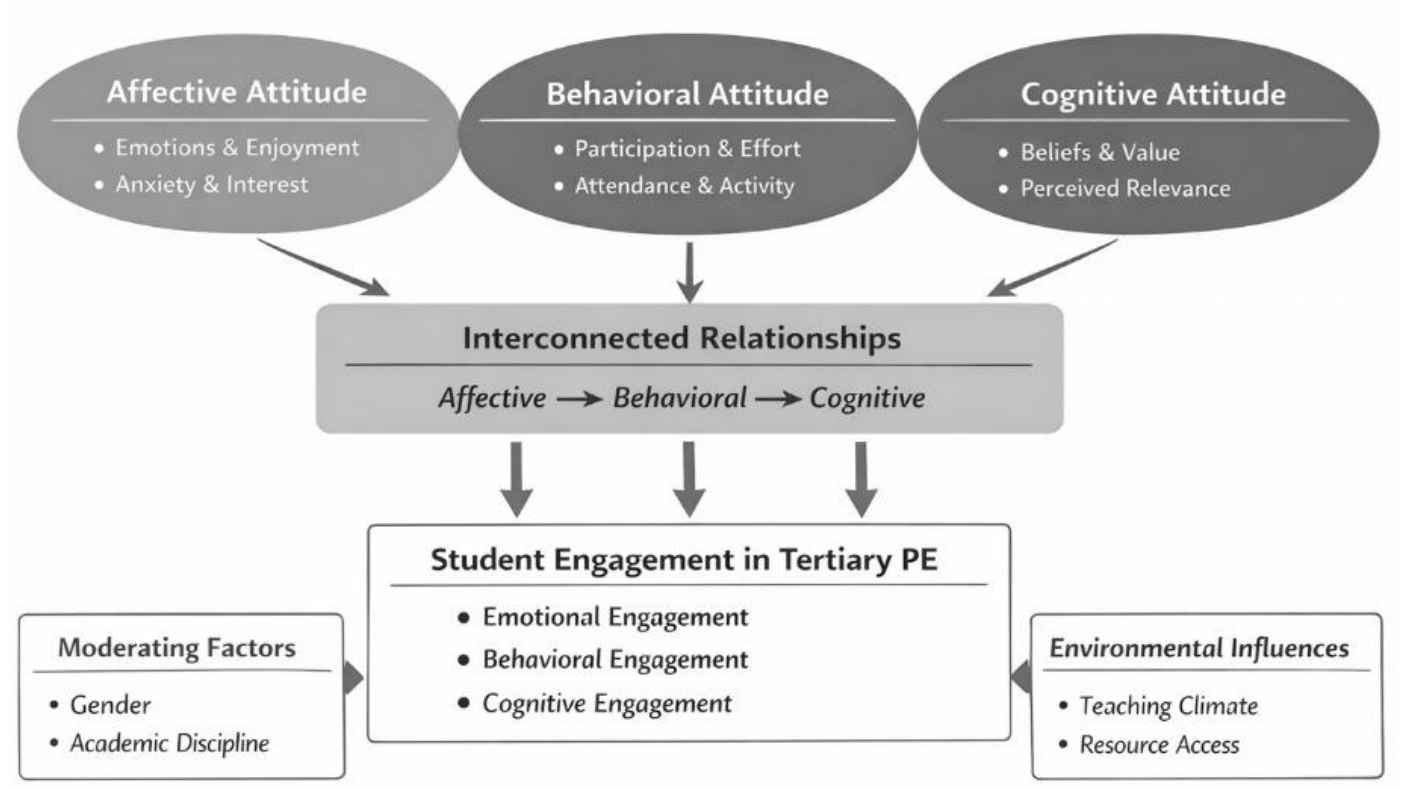


Figure 1. Perceived ABC Tripartite Model of Student Engagement in Tertiary Physical Education
Source: Authors Development

Research Objectives and Hypotheses

This was a research study that sought to investigate the extent to which perceived affective, behavioral, and cognitive attitudes affect participation in tertiary physical education among students. The objectives of this research were first to determine the extent of the affective disposition of students towards periodical physical education in terms of emotion, enjoyment, and interest. Second, to evaluate the level of students' behavioral disposition towards tertiary physical education, such as participation, effort, and attendance. Third, to ascertain the degree of students' cognitive disposition towards tertiary physical education, specifically students' beliefs, values, and understanding of the relevance of physical education to the subject. Fourth, to determine the level of student engagement in tertiary physical education in the emotional, behavioural, and cognitive domains. Fifth, investigate the relation of affective disposition in students and the engagement of students in tertiary physical education. Sixth, examine the relationship between students' perceived disposition to behaviours and Student engagement in physical education at tertiary level. Seventh, investigate the relationship between the cognitive disposition and the involvement of students towards tertiary physical education. Lastly, to examine which one of the individual components of the perceived ABC Tripartite Attitude Model is most predictive of student engagement in tertiary physical education. The following null hypotheses were considered in this study:

H01: There is no significant relationship between perceived affective disposition and student engagement in tertiary physical education.

H02: There is no significant relationship between perceived behavioral disposition and student engagement in tertiary physical education

H03: There is no significant relationship between perceived cognitive disposition and students' engagement in tertiary physical education.

H04: There is no significant and positive association between perceived affective disposition and student engagement in tertiary physical education.

H05: The perceived behavioral disposition does not significantly predict student engagement in tertiary physical education.

H06: Perceived cognitive disposition is not a significant predictor of student engagement in tertiary physical education.

METHODOLOGY

Research Design

This research used a quantitative approach using a descriptive-correlational research design. Such a design was considered adequate because the study aimed at defining current levels of perceived affective, behavioral, and cognitive attitudes along with student engagement and scrutinizing the interrelations and predictive power between the variables without manipulating conditions or introducing experimental treatments (Trolian, 2023). A descriptive-correlational design is usually adopted in educational and behavioral research when the goal is to find patterns, relationships, and predictive associations between naturally occurring variables (Guo et al., 2025). In the present inquiry, the perceived values of active students regarding tertiary physical education were tested in situ; therefore, experimental manipulation was both inappropriate and unnecessary. Furthermore, this research was based on the ABC Tripartite Model of Attitude that argues that attitude has affective, behavioural, and cognitive aspects. This theoretical orientation is compatible with correlational design because the focus of theoretical frameworks is the analysis of the interconnection between psychological constructs in real-world learning environments (Wang et al., 2024; Nie, 2024). Accordingly, the design supported a systematic investigation of the association between perceived affective, behavioral, and cognitive attitudes and emotional, behavioral, and cognitive engagement of students in tertiary physical education.

In addition, the design further aided the goal of the study to discern predictive relationships between variables. Using correlational and regression-based analyses, in the current study, significant predictors of student engagement were found among the various elements of the perceived ABC Tripartite Attitude Model (Stringfellow et al., 2024; Zhang et al., 2025). Such a view is in line with recent research on higher education that sees student engagement as a multidimensional result of psychological factors that interact in complex ways, instead of attributing student engagement to single causal variables (Trolian, 2023).

Respondents

The population used in this research was 352 undergraduate students from various reputable universities who were taking Physical Education for the academic year 2024-2025 during data collection. These students were selected as suitable participants as they had direct and recent exposure to the physical education program and were thus able to give valid perceptions about their attitudes, engagement, and learning experiences (Marttinen et al., 2021; Wang et al., 2024). The respondents were recruited from five universities as part of this study. They were anonymized as University A, University B, University C, University D, and University E for the sake of confidentiality and to reduce institutional bias. This study recommends recruiting respondents from multiple universities in higher education research for the purpose of improving the representativeness and generalizability of the findings on student attitude and engagement (Trolian, 2023; Guo et al., 2025).

Table 1. Distribution of Respondents

University	Number of Respondents	Percentage (%)
University A	125	35.5
University B	82	23.3
University C	69	19.6
University D	42	11.9
University E	34	9.7
Total	352	100.0

All respondents were officially registered in the Physical Education courses at the time of the study, and they had participated to a sufficient degree in the course activities to be able to evaluate their experiences. This ensured that whatever data was collected was a true and informed representation of the students' perceptions, consistent with best-

practice research in physical education and engagement (Stringfellow et al., 2024). The respondent sample was found adequate to effectively undertake descriptive, correlational, and nonparametric feedback issues analyses, which is consistent with the methodological principles of the educational investigation (Anderson & Clark, 2021; Zhang et al., 2024).

Instrument

The study used a structured self-report questionnaire which was aimed at determining the perceived affective, behavioural, and cognitive disposition of students towards tertiary physical education and the level of their engagement in Physical Education courses. The creation of the instrument was theoretically grounded in the ABC tripartite attitude model that conceptualizes attitude as being comprised of affective, behavioral, and cognitive elements, and multidimensional student engagement theory that conceptualizes engagement as an interaction of emotional, behavioral, and cognitive engagement in learning activities (Wang et al., 2024; Stringfellow et al., 2024). The questionnaire had two major sections. The first part of the test measured students' perceived ABC dispositions of Physical Education. The affective disposition subscale assessed the emotional moods of students with regard to Physical Education in terms of enjoyment, interest, excitement, and positive feelings experienced during participation; this subscale measured the emotional aspect of attitudes toward willingness to follow the activity (Huhtiniemi et al., 2022; Teraoka et al., 2021). The behavioral disposition subscale focused on students' action tendencies and participation patterns (e.g., attendance, effort, task compliance, and persistence) in Physical Education activities, which are the enacted component of attitude related to structured learning activities (Wang et al., 2024) and how it can be seen as the expressed part of attitude (Yu et al., 2025). The cognitive disposition subscale addressed students' perceptions regarding beliefs, values, and the perceived relevance of Physical Education, especially the relevance of this domain to health, well-being, personal development, and academic life, consistent with research emphasizing the role of perceived value in sustaining engagement at the tertiary level (Behzadnia, 2021; Nie, 2024). The second section of the instrument measured student engagement in physical education in tertiary education, measured as a multidimensional concept and including emotional, behavioral, and cognitive engagement. Engagement items reflected students' perceived effectiveness of Physical Education instruction, accessibility of facilities, equipment, and opportunities for learning, and perceived progress in their skills, competence, and personal development. This operationalization is much in line with the recent work of higher education researchers who have focused more on engagement as an overall psychological and behavioral outcome that influences the quality and perception of students' learning and educational support (Trolian, 2023; Stringfellow et al., 2024). All items in the questionnaire were written out as declarative statements for which the respondents marked their levels of agreement on a Likert-type scale, in which they rated their levels of agreement that each of the formal statements reflected their experiences in the Physical Education course they took. Composite mean scores were calculated for each of the subscales so that they reflect students' overall affective, behavioural, and cognitive attitudes as well as students' overall level of engagement. This procedure is commonly used when students' attitudes and engagement in physical education are the focus of studies (Guo et al., 2025; Zhang et al., 2025). To ensure that the instrument possesses content validity, the instrument was reviewed with experts in the areas of Physical Education and educational research who evaluated the instrument for clarity, relevance, and fit with theory. Internal consistency reliability was determined by Cronbach's alpha with all subscales resulting in acceptable reliability coefficients, which indicated that the instrument was fit for purpose for measuring the perceived attitudes and engagement in tertiary Physical Education of students (Anderson & Clark, 2021; Garcia-Fernandez et al., 2021).

Data Collection Procedure

Prior to data collection, ethical approval was obtained from the institutional research ethics committee to ensure compliance with the ethical requirements of the educational research study. All participants were informed of the study purpose, the voluntary nature of participation, and the right to withdraw from the study at any time without penalty. Informed consent was obtained from all participants prior to the administration of the survey, and confidentiality and anonymity were strictly maintained throughout the research process (Anderson & Clark, 2021; Garcia-Fernandez et al., 2021). Data collection was conducted using a structured survey questionnaire administered to first-year students in the Physical Education course. To improve participation and accessibility, the questionnaire was administered online and in

person, and respondents could complete the survey at their convenience. This dual-mode approach is recommended in higher education research to accommodate a wide range of schedules, increase response rates, and maintain essential data integrity. During administration, respondents completed the questionnaire within predetermined areas of the university under the supervision of the researchers, who were on hand to clarify instructions without biasing responses. In the online mode, the survey link was shared via official academic communication channels, and responses were automatically stored in a secure database. Upon completion of data collection, all responses were checked for completeness and consistency before they were prepared for statistical analysis (Marttinen et al., 2021).

Data Analysis

Statistical analyses were performed according to the descriptive-correlational approach of the study to investigate descriptive, relational, and predictive associations between students' perceived affective, behavioral, and cognitive attitudes and students' engagement in tertiary physical education (Trolian, 2023; Guo et al., 2025). Survey data were extracted for completeness, and item responses were aggregated to provide evidence of three ABC attitude dimensions (effective, accessible, and meaningful to the subject content) and student engagement (effectiveness, accessibility, and perceived progress) and overall students' engagement with the material (effectiveness, accessibility, and perceived progress) (Stringfellow et al., 2024). Internal consistency reliability was determined with the use of Cronbach's alpha: acceptable coefficient values were obtained for all the scales (Anderson & Clark, 2021; Garcia-Fernandez et al., 2021). Descriptive statistics (means and SDs) were calculated to describe the attitudinal disposition of students and the engagement levels (Marttinen et al., 2021; Nie, 2024). Pearson product-moment correlations were employed to analyze the relations among the ABC dispositions and engagement, and the significance level was $p = .05$ (Trolian, 2023; Stringfellow et al., 2024). Regression analysis was then performed to estimate the predictive value of affective, behavioral, and cognitive dispositions to engagement for students while accounting for the remaining factors (Guo et al., 2025; Zhang et al., 2025). Each of the analyses adopted two-tailed significance testing ($p < .05$) and was in line with modern methodological principles that viewed engagement as a multidimensional psychological outcome(Wang et al., 2024; Stringfellow et al., 2024).

RESULTS & DISCUSSION

Affective Disposition of Students towards Tertiary Physical Education

Students' affective disposition towards tertiary physical education was mostly positive as measured by emotion, enjoyment, and interest. As presented in Table 2, the overall mean for affective disposition was interpreted as "Often" and therefore indicates a high experience of positive emotions while in PE classes. The indicator that scored highest overall was "I find myself smiling and laughing during Physical Education activities," which is consistent with the evidence of the high rate of emotional engagement. Conversely, the lowest-rated item, "I have voluntarily participated in physical activities outside of class due to enjoyment gained from PATHFIT 1," suggests that affective enjoyment was less likely to spread outside of the structured classroom environment.

Table 2. Affective Disposition of Students Toward Physical Education

Indicator	Mean	SD	Interpretation
Positive emotions during activities	3.10	0.80	Often
PATHFIT 1 is entertaining	3.03	0.84	Often
Preference for PATHFIT 1	2.78	0.88	Often
Excitement before class	2.76	0.75	Often
Voluntary activity outside class	2.63	0.87	Often
Composite Mean	2.86	0.83	Often

H02 stated that there is no significant relationship between perceived affective disposition and engagement, while H05 stated that there is no significant positive association between affective disposition and engagement. Correlational analysis indicated that there was a significant relationship between affective disposition and engagement (see Table 4). Accordingly, H02 and H05 were rejected. These findings support the notion that students who experienced a greater amount of enjoyment, interest, and positive emotion are more engaged in tertiary physical education.

Behavioral Trait of Students towards Tertiary Physical Education

Behavioral dispositions as reflected by participation, effort, and attendance were of moderate levels. Students had regular attendance and engaged in Physical Education as indicated by their high and consistent ratings of enjoyment and preference (Table 2). However, the lower mean for voluntary participation outside of class indicates that behavioral engagement was, for the most part, compliance-based, as opposed to internally motivated. H03 suggested that there is not a significant relationship between perceived behavioral disposition and engagement, while H06 suggested behavioral disposition does not significantly predict engagement. The significant correlation between attitude in general (as well as behavioral disposition) and engagement suggests that behavioral disposition was significantly related to engagement. As such, H03 and H06 were rejected. Behaviors of students have a major influence on engagement, especially in a structured learning context, though participation in autonomous learning is limited.

Cognitive Approach of the Students to Tertiary Physical Education

Students' cognitive disposition towards physical education in terms of beliefs, values, and relevance was also positive, as seen in Table 3. Interpreted as "Often", the composite mean is equal to 3.06. Students had high perceptions about the importance of Physical Education to health and well-being, yet expressed low perceptions of Physical Education importance to academic success.

Table 3. Cognitive Disposition of Students Toward Physical Education

Indicator	Mean	SD	Interpretation
Importance for health	3.30	0.72	Often
Lifelong habit development	3.18	0.70	Often
Social and teamwork value	3.18	0.73	Often
Curriculum importance	3.14	0.74	Often
Academic relevance	2.99	0.77	Often
Composite Mean	3.06	0.80	Often

H04 stated that there is no significant relationship between cognitive disposition and engagement, whereas H07 stated that cognitive disposition is not a significant predictor of engagement. The significant positive relation between attitudes and engagement shows that both hypotheses are false. Students who valued physical education cognitively were found to be more engaged, but there was no strong association between physical education and academic achievement.

Level of Involvement of Students in Tertiary Physical Education

Student engagement was measured in terms of effectiveness, accessibility, and perceived progress. Table 4 results in an overall engagement composite mean of 3.14, which is interpreted as "Often." Students were emotionally, behaviorally, and cognitively engaged in Physical Education classes, though there were some accessibility issues that did affect overall engagement somewhat.

Table 4. Level of Student Engagement in Tertiary Physical Education

Engagement Dimension	Mean	SD	Interpretation
Effectiveness	3.17	0.70	Often
Accessibility	3.12	0.74	Often
Progress	3.14	0.76	Often
Overall Engagement	3.14		Often

Relationship between ABC Dispositions and Student Engagement

Using Pearson R correlation analysis, results demonstrated the existence of a high, positive, and statistically Significant Relationship between students' perceived ABC dispositions and engagement, as $r = 0.694$, $p = .001$, as outlined in Table 5. These results confirm the significant relationship of affective, behavioral, and cognitive dispositions to student engagement and hence reject H02, H03, H04, H05, H06, and H07.

Table 5. Relationship Between ABC Dispositions and Student Engagement

Variables	R	p-value	Decision
Attitude (ABC) and Engagement	0.694**	.001	Reject H_0

Discussion

Affective Disposition and Engaging Students

Empirical evidence shows that students' affective disposition, particularly their emotions, their enjoyment, and their interest, is consistently positive and is considered the preeminent feature in the ABC Tripartite Attitude Model. Participants repeatedly reported experiencing feelings of enjoyment, excitement, and being in a positive affective state during the Physical Education sessions. This finding validates extant literature by highlighting enjoyment as an important and critical process in determining engagement in the educational context for physical education, promoting emotional relationships to learning experiences and biodiversity, and increasing readiness to engage (Bailey, 2021). Nevertheless, despite the high levels of enjoyment during formal teaching, there was a tendency for students to show a decreasing tendency for physical activity outside of formal physical education. Such findings have some resonance with studies of the positive effect within the classroom as being favorable to being engaged in internal class interactions but inherently does not necessarily translate into sustained and autonomous physical activities unless strengthened by internalized motivation and contextual reinforcement in play (Limbo & Viva, 2021; Yu et.al., 2025). A self-determination perspective also implies that affective enjoyment in solitary play is not sufficient to generate long-term engagement without the accompaniment of autonomy-supportive environments that foster self-initiated participation (Deci & Ryan, 2000).

Behavioral Disposition and the Structured Participation

In terms of behavioral disposition, including participation, effort, and attendance, this evidence demonstrated moderate robustness in the structure of the Physical Education course. Results show that the students tended to obey the course mandates and participate in the allotted time for PE class. This is consistent with past studies supporting that compulsory tertiary PE courses can be effective in promoting engagement in behavioural terms if there is a good expectation for their engagement in the programme (Marttinen et al., 2021). Nonetheless, apparently, engagement in behaviour was context-dependent, with less voluntary participation outside of mandatory class requirements. Similar trends can be seen in the body of literature of higher education physical education research, where student engagement tends to be defined based on assessment and attendance policies as opposed to intrinsic motivation (Wang et al., 2024; Nie, 2024). As a result, in the case of tertiary PE, an outer regulation of behavior can be seen, potentially denoting external control on behavior rather than autonomous commitment, suggesting a possible need for instructional strategies that promote self-regulation and personal ownership of physical activity.

Cognitive Disposition: Value Without Academic Integration

The data showed that the students had a positive cognitive disposition towards tertiary physical education, especially concerning the role of physical education in relation to health, well-being, and development of life skills. These findings are similar to those of previous research, which show that university students recognize that physical education offers health and wellness benefits (Kljajevic et al., 2021; Han et al., 2025). However, the students demonstrated a reduction in the perceived usefulness of physical education in relation to academic achievement, indicating a continued cognitive dichotomy between PE and academic identity. This perceptual gap is well documented in the higher education literature, where PE has often been seen as additional, and understanding this perception is aggravating, as PE is something that can be shouldered alongside more comprehensive and academic learning (Hobson et al., 2024; Wang et al., 2024). Such low-level cognitive integration with the subject material may inhibit deeper engagement, as students are less willing to invest cognitively in non-academic learning. Accordingly, the tertiary PE curricula should be made explicit to make the interdisciplinary and transferable outcomes in order to ensure stronger students' cognitive alignment with physical education.

Physical Education for Students at the Tertiary Level

Regarding engagement, students generally saw Physical Education as effective and beneficial, particularly in the areas of learning outcomes and individual progress. These observations are corroborated by research that finds that well-structured PE programs may result in physical competence, confidence, and perceptions of physical improvement among university students (Choi et al., 2021; Teuber et al., 2024). Nevertheless, accessibility became a relative weakness, especially with regard to access to equipment and facilities. This finding is similar to others, namely, that logistic constraints are salient barriers to engagement in higher education PE contexts (Anderson & Clark, 2021; Wang et al., 2020). The accessibility challenges may affect the completeness of involvement; to a certain extent, affective and cognitive dispositions can be of positive value, so support and resources need to be developed and allocated by institutions.

Relationships Between ABC Dispositions & Engagement

A salient result in the present study is the strong positive relationship found between the ABC dispositions of students and engagement, thus refuting all null hypotheses relating to the effects of relationships and prediction. This empirical confirmation supports the idea that affective, behavioural, and cognitive dispositions together influence the

process of enrolling in tertiary physical education, also known as the ABC Tripartite Attitude Model (Wang et al., 2024; Stringfellow et al., 2024). Among the three components, affective disposition had the most definite influence on emotions, suggesting emotional experience would be the entry point for achieving engagement. Cognitive and behavioural dispositions also contributed significantly, but to what extent this was related to students' affective responses to PE activities remains unclear. This pattern is consistent with multidimensional engagement theory, where emotional engagement is often the precursor of awareness of behavioural and cognitive engagement (Trolian, 2023).

Implications for Tertiary Physical Education

The findings have important implications for the organization and implementation of tertiary physical education programs. First, instructors should overlook emotional engagement and entertainment value because affective disposition is the most potent force in generating involvement. Second, curriculum strategies must strive to overcome the disconnect between enjoyment and autonomous engagement and motivate students to engage in physical activity beyond the classroom. Third, there needs to be a focus on accessibility issues, as logistical barriers may undermine engagement even in the presence of a favorable attitude. Finally, strengthening the cognitive relevance of physical education (especially its connection to academic achievement, mental health, and professional skills) may increase student engagement and commitment to lifelong physical activity.

CONCLUSION

This study examined the influence of students' perceived affective, behavioural, and cognitive dispositions on participation in tertiary physical education within the empirical context of the Physical Education course of study. Guided by the ABC Tripartite Attitude Model, the results indicated a significant and meaningful impact of student attitudes on their engagement in the emotional, behavioural, and cognitive aspects of university-level physical education. Overall, students exhibited generally positive affective, behavioural, and cognitive dispositions to Physical Education. Students often reported enjoyment, interest, and positive emotions during physical education activities, which is a testament to a favorable affective disposition. They also showed consistent participation and effort in the structured nature of a course setting, which can be seen as a moderate behavioral disposition. Moreover, students had a positive cognitive appreciation of the role of physical education in terms of the benefits of physical education on health, well-being, and the acquisition of life skills, but not so much on academic achievement. In terms of engagement, the Tertiary physical education was consistently engaged by the students, particularly in terms of course effectiveness and personal progress perception. Nonetheless, this pattern has pointed out accessibility-related factors as relative constraints that lightly compromised total engagement. These findings suggest that in spite of positive perceptions of instructional quality and learning outcomes, institutional and logistical factors are salient considerations to keep engagement going. Importantly, the results in this research demonstrated the strong and significant relationship between perceived ABC dispositions of students and level of participation in tertiary physical education. A hypothesis test showed all null hypotheses to be rejected, confirming the hypothesis of relations between the scales of affective, behavioural and cognitive dispositions and the engagement of students. Among all the given three components, affective disposition proved to be a strong predictor in her study, establishing the importance of enjoyment and positive emotional experience in developing meaningful involvement in physical education at the tertiary level. In conclusion, the results confirm that student engagement in tertiary physical education is a multidimensional phenomenon that is actually determined by the interaction between emotional experiences, participation behaviors, and cognitive evaluations. The study yields validation of the applicability of the ABC Tripartite Attitude Model as a comprehensive framework for understanding engagement in physical education as an activity in a university setting. Enhancing student engagement, therefore, requires less "good instruction" itself, but more emotionally engaging learning experiences, opportunities for autonomous participation in learning, and cognitive relevance and supportive institutional conditions. Overall, this study provides empirical support for the growing amount of research on tertiary physical education, which indicates that positive student attitudes are vital to promote meaningful and sustainable engagement. Strengthening affective, behavioral, and cognitive dispositions towards physical education may help universities derive the greatest benefit from programs such as Physical Education in terms of development, health, and educational gains.

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