

A structural mediation model of peer support between perceived teacher autonomy support and deep learning in tertiary physical education

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ABSTRACT

Fostering deep learning in Physical Education (PE) remains challenging, especially in higher education, where traditional teacher-centered approaches prevail. This study examined the mediating role of perceived peer support in the relationship between teacher autonomy support and deep learning among Filipino university students. A cross-sectional survey was conducted with 367 undergraduate students using the Learning Climate Questionnaire (LCQ), Revised Study Process Questionnaire (R-SPQ-2F), and the Teacher and Classmate Support Scale (TCSS). Partial Least Squares-Structural Equation Modeling (PLS-SEM) revealed that teacher autonomy support significantly predicted deep learning ($\beta=0.361$, $p<.001$) and peer support ($\beta=0.427$, $p<.001$). Peer support also significantly predicted deep learning ($\beta=0.337$, $p<.001$) and partially mediated the teacher autonomy-deep learning relationship ($\beta=0.144$, $p<.001$). These findings emphasize the importance of autonomy-supportive teaching and peer collaboration in PE. The results provide insights for educators and policymakers aiming to create student-centered environments that foster deeper learning and sustained academic engagement.

KEYWORDS

Teacher Autonomy Support; Peer Support; Deep Learning; Physical Education; Higher Education

1. INTRODUCTION

In higher education, fostering deep learning among students remains a critical pedagogical (Archer-Kuhn et al., 2020), particularly in skill-based courses such as Physical Education (PE). Even though PE is traditionally viewed as a practical subject (Messmer, 2018), its influence extends to students' cognitive engagement, self-regulation, and long-term motivation for healthy lifestyles (S.

Chen et al., 2014; Ennis, 2017; White et al., 2021). However, PE instruction in many Philippine higher education institutions often adheres to teacher-centered models (Aquino, 2023; Mina & Oraiz, 2024), characterized by rigid structures and limited student autonomy. This pedagogical orientation may inhibit deeper engagement, thereby prompting further inquiry into students' capacity to engage meaningfully with course content (Reeve & Jang, 2006).

Globally, research has emphasized that both teacher support and peer dynamics significantly shape students' academic experiences (Muñoz-Hurtado, 2018; Saxer et al., 2024). Autonomy-supportive teaching, as framed by Self-Determination Theory (Ryan & Deci, 2000), is known to cultivate intrinsic motivation and self-directed learning, particularly in PE contexts (Haerens et al., 2015; Leisterer & Paschold, 2022). Simultaneously, peer support enhances collaboration, emotional safety, and mutual learning among students (Cheraghi et al., 2021; Qureshi et al., 2023). Although these dynamics have been explored extensively in Western contexts (Chiu, 2022; Ou et al., 2021; Reeve, 2016), their interplay remains underexamined in the Philippine setting, where hierarchical educational structures and collectivist culture may uniquely influence student motivation (Albia & Chan, 2017; Loh & Teo, 2017).

This study seeks to address this gap by examining the role of perceived peer support in mediating the relationship between perceived teacher autonomy support and deep learning in higher education PE courses in the Philippines. By empirically investigating these relationships, the study contributes to student-centered learning frameworks that emphasize autonomy and collaboration as vital mechanisms for enhancing academic engagement. The results aim to inform teaching practices, curriculum design, and institutional policies, while also providing context-specific insights that enrich the global discourse on deep learning.

1.1. Literature Review

This section reviews existing literature on the key relationships examined in the study. The discussion is organized into four thematic subsections: (1) the relationship between teacher autonomy support and deep learning, (2) the relationship between teacher autonomy support and peer support, (3) the relationship between peer support and deep learning, and (4) the mediating role of peer support in the link between teacher autonomy support and deep learning.

The relationship between perceived teacher autonomy support and deep learning

Teacher autonomy support is widely recognized as a foundational factor in fostering deep learning (Núñez & León, 2016; Zhao & Qin, 2021). Drawing on Self-Determination Theory (Ryan &

Deci, 2000), autonomy-supportive teaching promotes intrinsic motivation and cognitive engagement. Within PE contexts, such teaching encourages students to take ownership of their learning process, which is associated with deeper understanding and longer knowledge retention (Lobo et al., 2024). In the Philippine context, however, PE instruction often remains teacher-directed and assessment-heavy (Aquino, 2023; Tagare & Villaluz, 2021), limiting opportunities for autonomy and student-led inquiry. This study investigates whether perceived teacher autonomy support can promote deeper engagement in learning among Filipino PE students.

H₁: Perceived teacher autonomy support has a significant positive effect on deep learning in Physical Education.

The relationship between perceived teacher autonomy support and peer support

Autonomy-supportive teaching not only impacts learning but also shapes students' social learning environments. When teachers encourage autonomy, students are more likely to engage in collaborative behaviors and build positive peer relationships (Cheon et al., 2023; Zhong, 2021). Studies in Southeast Asia, including the Philippines, note that teacher-initiated opportunities for group-based decision-making improve student interaction quality and sense of belonging (Prananto et al., 2025; Tagare & Villaluz, 2021). Moreover, when teachers offer choices and show responsiveness to student perspectives, students report feeling safer and more inclined to cooperate with peers (Allen et al., 2021; Ong & Quek, 2023). This study explores whether autonomy-supportive environments enhance perceived peer support in the PE setting in the Philippine higher education context.

H₂: Perceived teacher autonomy support has a significant positive effect on perceived peer support.

The relationship between peer support and deep learning

Peer support is increasingly acknowledged as a crucial contributor to deep learning strategies such as critical thinking, reflection, and collaborative inquiry (Cheraghi et al., 2021; Tenenbaum et al., 2020). In the Philippine classroom setting, the collectivist orientation encourages group cohesion and peer reliance, which may further facilitate shared cognitive engagement (Tan, 2022). Social learning theory posits that students learn more effectively through observation and interaction with peers (Wentzel, 2009; Wentzel et al., 2010, 2017). However, some studies suggest that peer support alone may not directly lead to deep learning unless mediated by factors like self-efficacy (An & Guo, 2024). Within PE, where cooperative learning is embedded in many activities, the role of peer support in cognitive engagement remains underexplored, particularly in Philippine higher education.

H₃: Perceived peer support has a significant positive effect on deep learning in Physical Education.

The mediating role of peer support between teacher autonomy support and deep learning

Emerging studies suggest a mediating function for peer support in the relationship between autonomy-supportive teaching and academic outcomes (Chowdhury, 2021; Zhao & Qin, 2021). In such models, autonomy support fosters a conducive environment for peer collaboration, which subsequently enhances learning engagement (Wu & Dong, 2024). A Philippine-specific perspective is important, as peer norms and relational harmony strongly influence academic behaviors. Prior findings suggest that autonomy-supportive practices may indirectly strengthen students' cognitive outcomes by promoting supportive peer environments (Koka, 2013; Lobo et al., 2024). This study aims to test that mediating link in the Philippine PE context.

H₄: Perceived peer support mediates the relationship between teacher autonomy support and deep learning in Physical Education.

2. METHODS

2.1. Study Design and Participants

This cross-sectional study employed purposive sampling method, targeting students enrolled in PATH-Fit 1 and 3 at a public higher education institution during the 1st Semester of A.Y. 2023–2024. While this approach ensured that the sample was appropriate for the study's objectives, it may limit the generalizability of findings to other student populations, particularly those outside PE programs or from different institutional contexts.

The survey was administered online through Google Forms. While digital delivery facilitated access and convenience, it may have inadvertently favored respondents with more reliable internet access or higher levels of digital engagement. To encourage a broader response base, the survey was disseminated through multiple class sections and announced via both synchronous and asynchronous course channels.

The respondents comprises of first- and second-year students currently enrolled in either Physical Activity Towards Health and Fitness (PATH-Fit) 1 and 3. The present study have chosen to select these students as respondents since these courses are only offered during their freshman and sophomore years. Most importantly, a selection criteria was formulated to gather the most accurate data: (1) must be enrolled in the selected public higher education institution last 1st Semester of the

A.Y. 2023-2024; (2) either first- or second-year student (3) enrolled in PATH-Fit 1 and 3 (4) and from any sex/gender identity.

Furthermore, to determine the sample size for the present study, Raosoft Sample Size Calculator was utilized. Based from the target population with an approximate 5,000 enrollees for both of the courses, the recommended sample size is 357 using 95% confidence level and 5% margin of error. The number of responses that was received after data gathering phase last November-December 2024 is 427. After performing data cleansing, the number of valid responses is 367 which corresponds to 85.95% response rate. Table 1 depicts the distribution of the respondents based on sex/gender identity. Most of the respondents are heterosexual women (173) which corresponds to 47.1%, followed by heterosexual men (149) which represents 40.6%, followed by LGBTQIAP+ members (45) which is 12.3% based from the total sample.

Table 1. Distribution of respondents based on sex/gender identity

Demographic	Items	n(%)
Sex/gender identity	Heterosexual men	173 (47.1)
	Heterosexual women	149 (40.6)
	LGBTQIAP+	45 (12.3)
	Total	367 (100.0)

2.2. Instruments

The study utilized three distinct instruments to measure the constructs being studied. First, the 15-item Learning Climate Questionnaire (LCQ) initially formulated by Williams and Deci (1996) and adapted from Williams et al. (1996). It measured students' perception of autonomy-supportive teaching practices of their PE instructors. Responses were recorded on a 7-point Likert scale ranging from 1-strongly disagree to 7- strongly agree. Slight modifications were performed to tailor fit the instrument to the current context of the study. Second, the 20-item Revised Study Process Questionnaire (R-SPQ-2F) developed by Biggs et al. (2001) was also used. It specifically utilized the 10 questions in relation to deep learning. Data were recorded using 5-point Likert Scale ranging from 1- this item is never or only rarely true of me to 5- this item is always or almost always true of me. Lastly, the Teacher and Classmate Support Scale (TCSS) developed by Torsheim et al. (2000) was utilized to measure students' perceived peer support. Specifically, this study utilized only items 5–8 (4 items from the original instrument) from the classmate subscale to focus on peer support. The answers of the respondents were encoded using 5-point Likert scale ranging from 1- never to 5- always.

2.2.1. Item loadings, reliability and validity tests

The item loadings for all constructs exceed the recommended threshold of ≥ 0.70 , indicating strong item reliability. This confirms that each item effectively measures its corresponding construct. The CA and CR values for Perceived Teacher Autonomy Support (CA = 0.956, CR = 0.956), Perceived Peer Support (CA = 0.894, CR = 0.896), and Deep Learning (CA = 0.913, CR = 0.914) exceed the acceptable threshold of ≥ 0.70 . This confirms high internal consistency and reliability for each construct. Additionally, the AVE values for all constructs are ≥ 0.50 , meeting the minimum threshold for convergent validity. This indicates that each construct explains a significant portion of variance in its indicators, ensuring that the latent variables accurately represent the measured items. Lastly, the VIF values range between 1.955 and 4.568, all of which are below the recommended threshold of ≤ 5.0 . This confirms that multicollinearity is not a concern, meaning that the predictor variables do not excessively correlate with each other and maintain the stability of the model. Findings can be seen in Table 2.

Table 2. Item loadings, reliability tests, convergent validity metrics and multicollinearity assessment

Constructs	Metrics					
	Items	Item loadings	CA	CR	AVE	VIF
Perceived Teacher Autonomy Support (LCQ)	LCQ1	0.861	0.956	0.956	0.739	3.500
	LCQ2	0.884				4.430
	LCQ3	0.825				2.816
	LCQ4	0.897				4.568
	LCQ5	0.887				4.137
	LCQ7	0.869				3.554
	LCQ8	0.877				3.852
	LCQ14	0.869				3.537
	LCQ15	0.762				2.275
Perceived Peer Support (TCSS)	TCSS1	0.855	0.894	0.896	0.760	2.355
	TCSS2	0.898				2.989
	TCSS3	0.867				2.284
	TCSS4	0.865				2.464
Deep Learning (RSPQ)	SEFQ1	0.800	0.913	0.914	0.622	2.293
	SEFQ2	0.749				2.023
	SEFQ5	0.786				2.055
	SEFQ6	0.778				2.083
	SEFQ9	0.800				2.270
	SEFQ10	0.835				2.562
	SEFQ13	0.774				1.955
	SEFQ18	0.782				2.083

The Fornell-Larcker Criterion confirms discriminant validity, as the square root of the AVE for each construct (LCQ = 0.860, RSPQ = 0.788, TCSS = 0.872) is higher than its correlations with other constructs. This means that each construct is more strongly related to its own indicators than to

other constructs, ensuring that they are distinct from each other. Furthermore, The HTMT values (LCQ-RSPQ = 0.548, LCQ-TCSS = 0.453, RSPQ-TCSS = 0.542) are all ≤ 0.90 threshold. This indicates that the constructs are not highly similar and that discriminant validity is adequately established. Since the values fall within the acceptable range, the constructs of LCQ, RSPQ and TCSS are sufficiently distinct in the model. Results are illustrated in Table 3.

Table 3. Discriminant validity metrics

	LCQ	RSPQ	TCSS
Fornell-Larcker Criterion			
LCQ	0.860		
RSPQ	0.513	0.788	
SEFQ	0.421	0.491	0.872
Heterotrait-Monotrait Ratio (HTMT)			
LCQ			
RSPQ	0.548		
TCSS	0.453	0.542	

Based on the metrics, the following results are: SRMR: 0.044, d_ULS: 0.443, d_G: 0.259, χ^2 : 557.168, NFI: 0.909. The value is below the threshold of < 0.08 and the χ^2 is within the acceptable range ($\chi^2 \leq 3$). Lastly, the NFI value falls under acceptable fit. Therefore, it can be concluded that the instruments used in this study are valid and reliable, making them applicable in the context of this research.

2.3. Statistical Analyses

Descriptive statistics such as frequency and percentage were performed using IBM Statistical Package for the Social Sciences (SPSS) version 29 of MacOS was used. Lastly, inferential statistics specifically the Partial Least Squares-Structural Equation Modelling (PLS-SEM) was conducted to determine the relationship between perceived teacher autonomy support and deep learning, and the mediating role of perceived peer support in this relationship.

2.4. Ethical Statement

This study adhered to ethical research guidelines and was granted an exemption by the Local Research Ethics Committee of the College of Sports, Exercise, and Recreation. The exemption was granted as the study involved minimal risk, with no medical interventions, deception, or vulnerable populations. Data collection was conducted via an online Google Forms survey, focusing on students' perceptions rather than sensitive personal information. Participation was entirely voluntary, with respondents informed of their right to withdraw at any time. No monetary compensation was

provided, and potential risks were limited to minor discomfort in answering certain questions. Confidentiality and anonymity were strictly maintained, with data securely stored in accordance with the Data Privacy Act of 2012 (RA 10173) and deleted after three months. No secondary use of the data was permitted.

3. RESULTS

3.1. Model Assessment

The explanatory power of the model, as indicated by the R^2 values, shows that Perceived Teacher Autonomy Support (LCQ) explains 17.7% ($R^2 = .177$) of the variance in Perceived Peer Support (TCSS), while both LCQ and TCSS together explain 35.5% ($R^2 = .355$) of the variance in Deep Learning (RSPQ). This means that the combined influence of perceived teacher autonomy support and peer support accounts for over one-third of the variability in students' deep learning. In educational research, an R^2 value of this magnitude is considered moderate and indicates that the model provides a meaningful explanation of the outcome behavior in this specific context.

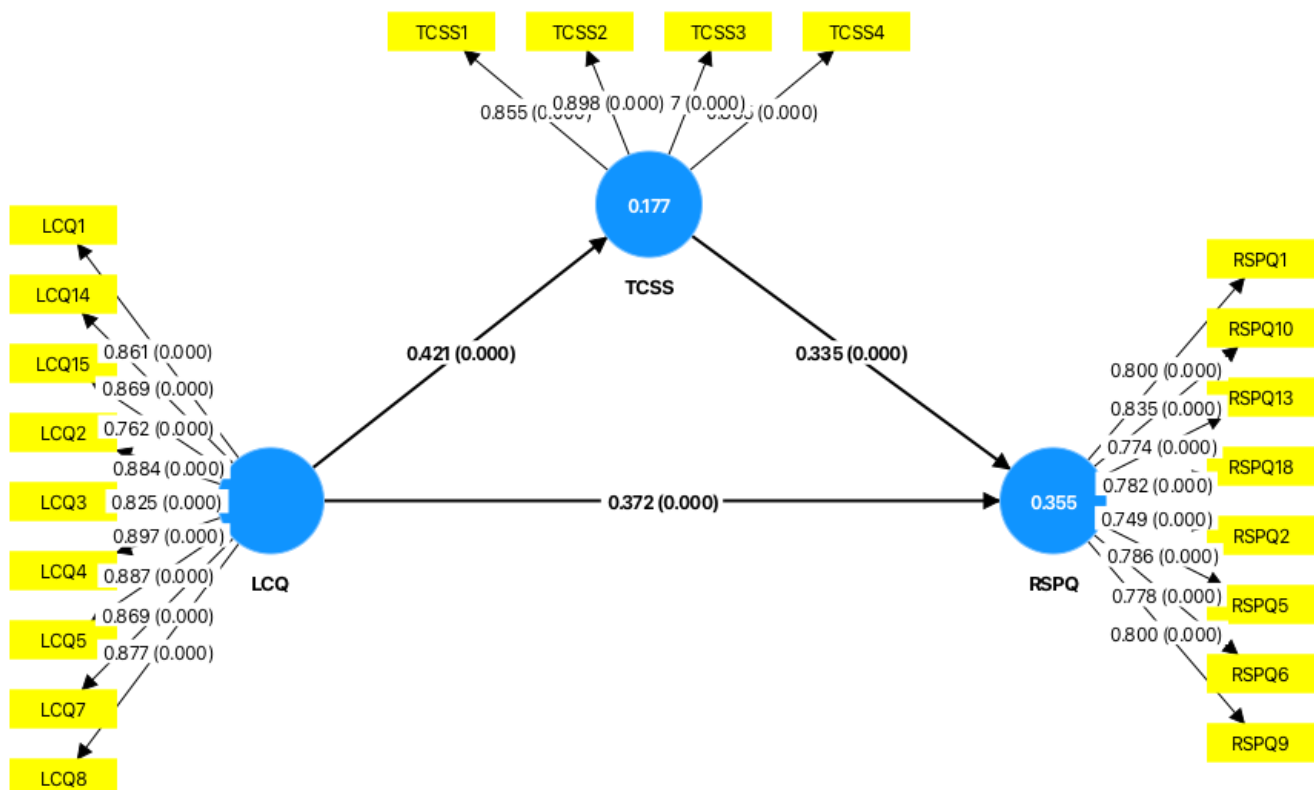


Figure 1. The mediating effect of perceived peer support between perceived teacher autonomy support and deep learning in Physical Education

3.2. Direct Effects

First, the findings revealed that LCQ has a direct and positive influence on RSPQ ($\beta = 0.361$, $p < 0.001$), suggesting that when students perceive autonomy support from their teachers, they are more likely to engage in deep learning approaches. This means that students in environments where teachers encourage independent thinking and self-regulated learning tend to adopt more meaningful learning strategies rather than relying on rote memorization.

Moreover, LCQ also significantly influences TCSS ($\beta = 0.427$, $p < 0.001$), indicating that autonomy-supportive teaching fosters a classroom climate where students feel more supported by their peers. When teachers provide an environment that values student choice, engagement, and collaboration, peer relationships naturally strengthen, leading to a more cohesive and supportive learning experience. In turn, TCSS positively affects RSPQ ($\beta = 0.337$, $p < 0.001$), demonstrating that peer support plays a crucial role in deep learning. Students who experience strong peer connections tend to participate in meaningful discussions, exchange knowledge, and engage in cooperative learning, all of which contribute to deeper understanding.

3.3. Indirect Effect

The mediation analysis confirmed that TCSS partially mediated the relationship between LCQ and RSPQ ($\beta = 0.144$, $p = 0.000$). This suggests that while teacher autonomy support directly enhances deep learning, it also does so indirectly by fostering peer support, which further reinforces deep learning engagement. These results emphasize the importance of integrating both teacher and peer support mechanisms in educational settings. Teachers should not only provide autonomy-supportive instruction but also cultivate a collaborative classroom environment that encourages peer interaction and support. By doing so, students are more likely to develop intrinsic motivation and adopt deep learning strategies, ultimately leading to better academic outcomes.

Table 4. Hypotheses Testing

Hypothesis	Path	Path Coefficient	<i>p</i> -value	Decision
H ₁	LCQ → RSPQ	0.361	0.000	Accepted
H ₂	LCQ → TCSS	0.427	0.000	Accepted
H ₃	TCSS → RSPQ	0.337	0.000	Accepted
H ₄	LCQ → TCSS → RSPQ	0.144	0.000	Accepted

4. DISCUSSION

The findings of this study provide strong evidence that perceived teacher autonomy support has a direct and positive influence on deep learning in physical education. This aligns with previous

research highlighting the role of autonomy-supportive teaching in fostering student engagement and intrinsic motivation, which are critical factors for deep learning (Ryan & Deci, 2000; Standage et al., 2003; Vansteenkiste et al., 2007). When students perceive that their teachers encourage self-directed learning, they are more likely to engage in meaningful cognitive processes rather than relying on surface-level strategies (N. Wang, 2024). In physical education settings, autonomy-supportive environments have been linked to higher levels of student enjoyment, effort, and long-term participation in learning activities (Huéscar et al., 2020; Leisterer & Gramlich, 2021). The present study adds to the body of literature by reinforcing the idea that teacher autonomy support not only enhances motivation but also deepens students' learning approaches.

Furthermore, the study found that teacher autonomy support significantly influences perceived peer support, suggesting that teachers play a crucial role in shaping students' social learning environments. Prior research has shown that autonomy-supportive teaching fosters a classroom climate where students feel more valued, respected, and supported by their peers, leading to higher levels of social cohesion (Allen et al., 2021; Moreno-Murcia et al., 2020; Ruzek et al., 2016). When students feel encouraged to take ownership of their learning, they are more likely to engage in collaborative interactions with their peers (Han, 2021; Huang & Lajoie, 2023). This finding is particularly relevant in physical education, where teamwork and cooperative learning are integral to skill development and active participation (C. Yang et al., 2021; Zhou et al., 2023). These results highlight the need for teachers to create autonomy-supportive environments that not only enhance individual learning outcomes but also foster peer support (Reeve, 2006).

The study also demonstrated that perceived peer support significantly enhances deep learning. This reinforces the idea that students who feel supported by their peers are more likely to engage in meaningful learning strategies, as supported by previously conducted studies (C. Chen et al., 2023; Monteiro et al., 2021; Shao et al., 2024). Furthermore, the finding can be supported by previous research showing that positive peer interactions encourage students to participate in discussions, share knowledge, and develop a deeper understanding of learning material (Tenenbaum et al., 2020; Tullis & Goldstone, 2020; Williamson & Paulsen - Becejac, 2018). Peer support has been identified as a key factor in motivation and academic engagement, particularly in collaborative learning environments, where students rely on each other for feedback and encouragement (Amerstorfer & Frein Von Münster-Kistner, 2021; Hoferichter et al., 2022; Jin et al., 2022). In physical education, social support from peers has been found to enhance motivation, improve performance, and promote sustained engagement in learning activities (Martinot et al., 2022; Qi et al., 2024; Wentzel et al.,

2010). Therefore, the finding of this study add to the growing body of evidence by confirming that peer relationships play a crucial role in deep learning. Also, it underscores the importance of fostering social support mechanisms within educational settings.

Finally, the mediation analysis confirmed that perceived peer support partially mediates the relationship between teacher autonomy support and deep learning. The finding postulates that peer interactions serve as a critical mechanism through which autonomy-supportive teaching translates into deeper engagement. This supports previous research emphasizing the dual pathways of teacher and peer influence on learning outcomes (Danielsen et al., 2010; Hoferichter et al., 2022; Kristensen et al., 2023). Additionally, studies have shown that autonomy-supportive teachers not only enhance students' intrinsic motivation but also create conditions that facilitate positive peer interactions (Alley, 2019; Yang, 2024). Thus, contributing to deeper cognitive engagement (Núñez & León, 2016; Wang et al., 2024). This finding highlights the need for a holistic approach to teaching that integrates both teacher and peer support strategies to maximize student learning potential (Patel, 2003). In this case, a holistic approach refers to an integrated pedagogical model wherein instructors apply both autonomy-supportive teaching strategies (e.g., offering meaningful choices, acknowledging student perspectives) and actively facilitate peer collaboration (e.g., cooperative learning tasks, structured peer feedback). This dual focus encourages student ownership while enhancing classroom social dynamics. Hence, these results emphasize the importance of creating autonomy-supportive and socially enriching learning environments that encourage both individual and collective academic success.

Beyond its immediate effects on deep learning, teacher autonomy support also plays a crucial role in fostering lifelong learning habits (Gavrilyuk, 2015; Lüftenegger et al., 2012). Empirical studies, systematic reviews, and meta-analyses suggest that autonomy-supportive teaching contributes to students' ability to self-regulate their learning beyond the classroom, helping them develop skills such as critical thinking, problem-solving, and adaptability (Aelterman & Vansteenkiste, 2023; Bureau et al., 2022; Moreno-Murcia et al., 2020; Vasconcellos et al., 2020). This becomes particularly important in physical education, where self-directed practice and motivation are essential for continued participation in physical activity (Cronin-Golomb & Bauer, 2023; Quested et al., 2021; Rosenkranz et al., 2023; Teixeira et al., 2012). By equipping students with autonomy-supportive experiences, educators are not only improving their immediate engagement in deep learning but also fostering an intrinsic desire for lifelong physical and cognitive development (Kohake & Heemsoth, 2021; Lagestad et al., 2024). Furthermore, students who

internalize autonomy-supportive principles are more likely to transfer these skills to other areas of their academic and personal lives. Thus, leading to greater overall success and well-being.

To maximize the benefits of teacher autonomy support and peer collaboration, educational institutions must consider implementing structured interventions that integrate both elements (Byl et al., 2023; Lozano-Jiménez et al., 2021; Pineda et al., 2024). For instance, cooperative learning models, which emphasize peer collaboration and shared problem-solving, have been shown to significantly enhance students' deep learning approaches (Çolak, 2015; Tlhoale et al., 2016). Additionally, professional development programs for teachers can provide strategies for fostering autonomy-supportive learning environments (Cheon et al., 2018; Matahela & Van Rensburg, 2023). These ensures that educators are equipped with the tools needed to enhance both student motivation and peer relationships (Ertürk, 2023). Schools can also introduce mentorship programs. These programs targeted students where older or more experienced individuals support younger peers in academic and physical education settings (Glazzard et al., 2021). Thus, fostering a culture of mutual support and deeper engagement (Smith et al., 2018). By systematically integrating these approaches, educational institutions can create a sustainable framework that maximizes student learning potential while promoting autonomy, collaboration, and long-term academic success.

5. CONCLUSIONS

This study highlights the crucial role of teacher autonomy support in fostering deep learning in higher education institutions. The findings suggest that when instructors encourage autonomy, students engage in more meaningful learning processes, developing critical thinking skills and relying less on rote memorization. Additionally, peer support was shown to strengthen this relationship, reinforcing the idea that a socially supportive academic environment enhances deep learning. The study underscores the importance of integrating both autonomy-supportive teaching and peer collaboration to optimize student engagement and academic performance.

This research contributes to the growing body of literature on autonomy-supportive instruction and its effects on student motivation and learning in higher education. By identifying the mediating role of peer support, the study offers valuable insights into how social interactions shape students' cognitive engagement. These findings have practical implications for institutional development. Universities and colleges may consider investing in faculty training programs that promote autonomy-supportive pedagogy, while also implementing peer-led initiatives to build socially responsive classrooms.

Despite its contributions, this study has several limitations. First, it relies solely on self-reported data, which may be subject to recall bias, social desirability, and subjective interpretation. Second, the cross-sectional design limits the ability to infer causality between variables. Third, the sample was drawn from a single public higher education institution, which may restrict the generalizability of the results. Future research should include a more diverse sample that spans private institutions, regional colleges, and different academic disciplines to provide a more comprehensive understanding of how autonomy support and peer dynamics function across contexts.

Longitudinal studies may also explore the sustained effects of autonomy support and peer collaboration on academic achievement, while experimental designs could evaluate the effectiveness of specific teaching strategies. Furthermore, qualitative inquiries could offer deeper insight into how autonomy-supportive environments are experienced on the ground. Researchers are also encouraged to examine the influence of institutional policies and cultural factors on how autonomy is supported and enacted in the classroom.

Notably, this study positions the Philippine context within the broader global discourse on autonomy-supportive teaching. Most of the existing research in this area has been conducted in Western settings, where academic and cultural dynamics differ considerably. By providing empirical data from a collectivist and hierarchical education system, this study broadens the scope of inquiry and offers context-specific insights. Understanding how Filipino students experience autonomy and peer support not only enhances local pedagogical approaches but also contributes meaningfully to the global dialogue on culturally adaptive and student-centered teaching.

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CONFLICTS OF INTEREST

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