

# Inspiring Moves: How Practicum Teacher's Engagement and Encouragement Boost Students' Self-Efficacy in Physical Education Class

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## Abstract

This study examines the correlation between the practicum teacher's engagement, encouragement, and students' self-efficacy in physical education classes in Malaysia. Using a correlational research design, the study sampled 587 students aged 15-18 from secondary schools in one of the states in Malaysia. Data collection was facilitated through a self-developed questionnaire: Teacher Engagement in PE Scale (TEPS), Teacher Encouragement in PE Scale (TEEPS), and Student Self-Efficacy in PE Scale (SSEPS). The scales Cronbach's alpha values are between 0.882 and 0.892. With SPSS version 29, descriptive statistics and Pearson's correlation analysis were carried out. The results indicated strong positive correlations between practicum teacher engagement ( $r = .873$ ), encouragement ( $r = .862$ ), and student self-efficacy. Although recent findings have underscored the positive correlations between these factors, a vast landscape remains for further exploration. Research directions have been proposed to build on the current body of knowledge and address existing gaps.

**Keywords:** Engagement, Encouragement, Self-Efficacy, Physical Education, Practicum Teacher, Student

## Introduction

Integrating not only physical health but also mental components like self-efficacy, and physical education (PE) is essential to kids' all-around growth and development. In Malaysia, where cultural diversity and varying educational frameworks prevail, PE teachers encounter specific challenges in nurturing self-efficacy among students. A person's self-efficacy may be described as their confidence in their abilities to handle certain challenges and achieve their goals, which is crucial for motivating students and enhancing their engagement in physical activities. One significant hurdle is the multicultural and socioeconomically diverse background of students in Malaysian schools. This diversity means that students come into the PE setting with vastly different experiences and levels of confidence in their physical abilities. For instance, Zulkifli and Hashim (2023) highlight that these differences necessitate highly adaptable teaching

strategies. Teachers must be capable of recognizing and responding to varied learning needs, which can complicate efforts to uniformly enhance self-efficacy across the student body.

Another challenge lies in the delivery of personalized feedback, crucial for fostering self-efficacy. In large classes, it becomes difficult for teachers to provide individualized attention (Farid & Azman, 2024). Personalized feedback helps students understand their progress and identify areas of improvement, thereby boosting their confidence and willingness to engage in physical challenges. The lack of such feedback can result in a generic teaching approach that may not address individual or specific group needs effectively. Curricular constraints also play a role in limiting opportunities for enhancing self-efficacy. As Lee and Wong (2022) point out, the standardized PE curriculum in Malaysia does not always allow flexibility for activities specifically designed to boost self-efficacy, such as goal-setting or self-regulated learning. This rigidity can prevent teachers from employing innovative educational strategies that might be more effective in engaging students and improving their self-belief.

Moreover, the professional development of PE teachers regarding the psychological aspects of physical education is often inadequate. According to the findings of Kumar and Cheong (2024), physical education instructors may not know how to use tactics that boost students' confidence in their abilities. Methods like social persuasion, enabling vicarious experiences via peer modeling, and delivering mastery experiences are all part of this arsenal. Without these skills, teachers are less equipped to create a learning environment that promotes students' belief in their physical competencies. Finally, the integration of technology, which could significantly support self-efficacy by introducing innovative teaching methods and resources, is limited in many Malaysian schools. Tan and Lim (2023) discuss how the use of technology in PE can engage students in novel ways, thus enhancing their self-efficacy.

An integral part of teacher preparation programs that include practicums is hands-on field experience, appreciated highly by both practicum teachers and teacher educators (Arnold et al., 2014). According to Beck and Kosnik (2002), one of the most important parts of a teacher education program is practical field experience. The bulk of research in this field tends to focus on practicum instructors' views, attitudes, motivating factors, or their perceived improvement of competencies, largely adopting self-report approaches (Arnold et al., 2014; Cohen et al., 2013). Individual teachers have a significant impact on their pupils' achievement in the classroom (Hattie, 2009). The cornerstone of successful teaching is built-in topic understanding and the systematic or didactic preparation of this information. It is vital to distinguish between the structural quality of lesson preparation by instructors and the dynamic quality of interactions between teachers and students during the class. Successful planning does not inevitably translate to successful teaching. Highly prepared instructors should possess both knowledge of what to teach and how to teach it referred to as pedagogical subject knowledge and should adeptly use this knowledge in both lesson preparation and during teacher-student interactions inside the classroom. Ultimately, it is the processes inside the classroom that students directly engage with, and it is largely the quality of teacher-student interactions that increase student learning and contribute to their future academic achievement (Piantan et al., 2002).

### **Teachers' Engagement**

Teacher engagement in physical education (PE) is crucial for fostering a positive learning environment and enhancing student participation and achievement. Engagement here refers to the teacher's enthusiasm, dedication, and involvement in teaching and interacting with students. Engagement in the teaching context can be linked to several motivational theories,

including SDT Deci & Ryan (2008), the theory put forward by Deci and Ryan. Activities that make people feel connected to others, competent, and autonomous are more likely to elicit a positive emotional response, according to SDT. The theoretical framework underpinning PE teacher engagement has often been critiqued for its lack of depth in understanding the unique challenges and motivations of PE teaching. Traditional theories of teacher engagement primarily focus on general pedagogical strategies and psychological motivations, overlooking the distinct physical and environmental factors that influence PE teachers. For instance, Bechter and Dimmock (2021) argue that existing models fail to adequately incorporate the impact of institutional support and student behavior specific to physical education settings. This gap highlights the need for developing a specialized engagement model that considers the physicality of the discipline and the outdoor teaching environment, which are often more variable and unpredictable than classroom settings.

Methodologically, research on PE teacher engagement has been limited by a reliance on qualitative approaches that do not capture the broader spectrum of engagement across different regions or educational systems. Quantitative studies or mixed-method approaches could provide more generalized and comparative data, thereby enhancing the reliability and applicability of research findings. A study by Lawson and Lawson (2022) utilized a mixed-methods design to explore the correlations between teacher engagement and student outcomes specifically in PE, which provided novel insights into how engagement directly influences educational effectiveness. In professional practice, there remains a gap in continuous professional development tailored specifically for PE teachers. Often, professional development opportunities are designed generically for all educators, without addressing the specific needs and challenges faced by those in physical education.

Reinforcing this, a study by Turner and Finch (2023) found that targeted professional development programs focusing on innovative physical education techniques and student engagement strategies significantly improved the job satisfaction and retention rates of PE teachers. Addressing these gaps has the potential to significantly enhance PE teaching practices. For example, by developing engagement models tailored to PE, educators can be better prepared to handle the specific challenges of the discipline, such as managing large groups outdoors, integrating technology in physical education, and adapting to diverse student needs regarding physical activity. Furthermore, enhancing methodological approaches in research can lead to more effective policies and practices that are evidence-based and grounded in the reality of PE teaching environments.

### **Encouragement**

Encouragement by physical education (PE) teachers is a vital pedagogical tool that can significantly influence student attitudes, participation, and performance in physical activities. The role of encouragement in PE extends beyond mere motivational speech; it encompasses a range of supportive behaviors that foster a positive and inclusive learning environment. Encouragement in PE aligns with several psychological and educational theories, including Vygotsky's Social Development Theory (Vygotsky, 1978) which emphasizes the importance of social interaction in the learning process. By encouraging students, PE teachers facilitate a supportive social environment that can enhance learning and development. Current theoretical frameworks largely focus on general educational encouragement, with limited specific emphasis on physical education contexts. These models often fail to take into account the specifics of physical education (PE), including the importance of intrinsic motivation, the impact of perceived physical competence, and the value of group work in fostering

interpersonal competence. For example, research by Caldwell and Wilkins (2021) highlights that existing theories do not adequately address how encouragement affects students' attitudes towards physical education specifically, which can differ significantly from their reactions to academic subjects.

Research methodologies applied in studies of PE teacher encouragement are often limited to small-scale qualitative studies that do not capture the diversity of educational settings or the varying impacts across different demographic groups. Longitudinal studies and large-scale quantitative research are lacking, which limits our understanding of how PE teacher encouragement plays out over time. Martin et al (2022) made a significant methodological improvement by conducting longitudinal research that tracked students' physical education (PE) involvement across many years to determine the effect of teachers' encouragement on students' engagement. In terms of professional practice, there is a significant gap in the training and resources available to PE teachers regarding effective encouragement strategies. Many PE teachers report feeling underprepared to employ encouragement techniques that are specifically tailored to the needs of diverse student populations, including those with physical disabilities or those who are less naturally inclined towards physical activities. Smith and Thompson (2023) suggest that professional development programs rarely focus on these aspects, underscoring a need for specialized training programs that equip teachers with skills in motivational encouragement specific to physical education.

Improving the understanding and implementation of encouragement strategies by PE teachers has the potential to significantly enhance student engagement and outcomes in physical education. By addressing the gaps in theoretical models and methodologies, as well as enhancing professional training, educational leaders can foster an environment where PE teachers are well-equipped to motivate all students effectively. For instance, integrating encouragement strategies that focus on personal growth, resilience, and social interaction can lead to more inclusive and stimulating PE classes.

### **Research Objective**

This research aims to investigate the connections between physical education (PE) practicum teachers' engagement, their encouragement, and the self-efficacy of secondary school students in PE classes.

### **Research Hypotheses**

#### **Hypothesis 1**

(H1): A significant positive correlation exists between students' perceptions of PE practicum teachers' engagement and students' self-efficacy in PE classes.

#### **Hypothesis 2**

(H2): A significant positive correlation exists between students' perceptions of PE practicum teachers' encouragement and students' self-efficacy in PE classes.

### **Methodology**

#### **Study Design**

This study employs a cross-sectional quantitative design and facilitates data collection at one point in time from a large sample, enabling statistical analysis of the relationships between the variables. The sample consists of 587 secondary school students aged 15-18 years from various schools.

**Instruments****1. Teacher Engagement in PE Scale (TEPS)**

This instrument, developed specifically for this study, measures students' perceptions of their PE teachers' engagement. This item uses a Likert scale where 1 is strongly disagreeing and 5 is strongly agreeing to score items and assess aspects such as teacher enthusiasm, commitment, and involvement in PE activities.

**2. Teacher Encouragement in PE Scale (TEEPS)**

Also designed for this study, this scale evaluates the level of encouragement provided by PE teachers, as perceived by students. This item uses a Likert scale where 1 is strongly disagreeing and 5 is strongly agreeing to score items, focusing on motivational communication and support.

**3. Student Self-Efficacy in PE Scale (SSEPS)**

This scale measures the students' self-reported self-efficacy in PE, uses a Likert scale where 1 is strongly disagreeing and 5 is strongly agreeing to score items, reflecting their belief in their ability to perform PE tasks.

**Data Collection Procedure**

Surveys were administered after PE class periods to ensure a high response rate. Students were briefed on the study's goals, and the anonymity of their replies was assured. Teachers were made aware of the study but were not present during survey administration to minimise the potential influence on student responses.

**Data Analysis****1. Descriptive Statistics**

Initial analyses will summarize the demographic characteristics of the sample and provide mean scores and standard deviations for the key variables (teacher engagement, teacher encouragement, and student self-efficacy).

**2. Correlation Analysis**

Pearson's correlation coefficients will be calculated to determine the relationships between perceived teacher engagement, teacher encouragement, and student self-efficacy.

**Limitations**

The capacity to prove causality is hindered by the study's cross-sectional design. There is a risk of response bias when measurements are dependent on self-reporting. Prospective research may use objective metrics of participation and motivation in the future, as well as longitudinal approaches.

**Finding and Discussion****Demographic**

From the demographic data presented in Table 1, the sample comprised an almost equal distribution of male (293, 49.9%) and female (294, 50.1%) students, totaling 587 participants. The age distribution was also relatively balanced among four age groups: 15 years (148, 25.21%), 16 years (146, 24.87%), 17 years (148, 25.21%), and 18 years (145, 24.71%). This equal distribution across gender and age suggests that any findings related to the impact of

practicum teachers' engagement on student self-efficacy in physical education classes can be generalized across these demographics without gender or age bias.

Table 1  
*Demographic Data*

		Frequency	Percentage
Gender	Male	293	49.9
	Female	294	50.1
Age			
	15	148	25.21
	16	146	24.87
	17	148	25.21
	18	145	24.71

n= 587

### Normality Test

With a standard deviation (SD) of 0.59, the practicum teacher's engagement score averaged 4.31. Although somewhat negatively skewed and platykurtic, with a flatter peak than a normal distribution, the kurtosis of -0.511 and skewness of -0.233 indicate a substantially normal distribution. The practicum teacher's encouragement had a mean of 4.33 and an SD of 0.63. It also displayed a slight negative skewness (-0.246) and negative kurtosis (-0.625), indicating a distribution similar to the practicum teacher's engagement but slightly flatter. Student Self-Efficacy mean was 4.36 with an SD of 0.69. It showed the most negative skewness (-0.289) and kurtosis (-0.698) among the three variables, suggesting that this variable, while still broadly normal, has the flattest distribution and is more spread out.

The relatively normal distributions of scores for PE practicum teacher engagement, teacher encouragement, and student self-efficacy imply that the data is well-suited for parametric statistical analyses, which assume normality. The slight negative skewness in all variables indicates that there are more high scores, but not enough to significantly distort the distribution. This could suggest that the majority of students are experiencing relatively high levels of engagement, encouragement, and self-efficacy, with fewer students reporting lower experiences or perceptions in these areas.

Table 2  
*Normality Test*

	Mean	SD	Skewness	Kurtosis
Teacher's Engagement	4.31	.59	-.233	-.511
Teacher's Encouragement	4.33	.63	-.246	-.625
Student Self-Efficacy	4.36	.69	-.289	-.698

### Instrument Reliability Test

Scales evaluating teacher involvement, encouragement, and student self-efficacy were tested for reliability using Cronbach's Alpha, and the findings are shown in Table 3. The items on this scale have an exceptionally high degree of internal consistency, as seen by the teacher engagement Cronbach's Alpha score of 0.892. A high degree of internal consistency is also shown by the teacher's encouragement reliability, which is scored at 0.882. With a Cronbach's

Alpha of 0.884, the student self-efficacy measure is quite reliable. All three scales have high levels of internal consistency since their stated Cronbach's Alpha values are higher than the generally recognised criterion of 0.7 for trustworthy measures. If the items on each scale consistently assess the same underlying idea, then the measures are well-constructed, and the values are high. This is vital for making sure that the results about how students' self-efficacy is affected by their teachers' involvement and support are legitimate.

Table 3  
*Reliability Test Result*

	Teacher's Engagement	Teacher's Encouragement	Student Self-Efficacy
Cronbach's Alpha	.892	.882	.884

**Hypothesis 1 (H1): A significant positive correlation exists between students' perceptions of PE practicum teachers' engagement and students' self-efficacy in PE classes.**

Table 4 shows the results of an investigation that shows a strong relationship between the level of teacher engagement and the level of student self-efficacy in PE lessons. The Pearson correlation coefficient is very high at 0.873, with a significance level (2-tailed) marked at 0.00, indicating a statistically significant relationship. This strong correlation is based on a substantial sample size of 587 students, providing a solid foundation for the reliability of these results. The strong positive correlation between teacher engagement and student self-efficacy aligns with several psychological theories and educational models, notably the theory put forward by Bandura on social cognition. Bandura (1986) argues that social interactions—including observational learning, social persuasion, and emotional states—play a crucial role in influencing self-efficacy. Teacher engagement embodies these elements by providing a supportive, interactive, and encouraging environment that facilitates learning and skill acquisition, thereby enhancing self-efficacy among students. Moreover, Vygotsky's Socio-Cultural Theory also supports these findings by emphasizing the importance of social interaction in the learning process. Vygotsky proposed that learning is inherently a social process, with knowledge being constructed through interactions with more knowledgeable others—in this case, the teachers. High levels of teacher engagement not only demonstrate the task at hand but also engage students in the learning process, thus scaffolding their development towards higher levels of physical and psychological competence.

For teachers, the empirical evidence provided by this strong correlation suggests that increasing teacher engagement might be a critical strategy for enhancing students' self-efficacy. Engagement can take many forms, including verbal encouragement, active participation in physical activities, and the use of motivational feedback that reinforces students' belief in their abilities. Physical education programs should thus consider training teachers not only in the technical skills of sports but also in interpersonal and motivational skills that are shown to boost student engagement and self-efficacy. While the correlation data provide insightful information about the relationship between teacher engagement and student self-efficacy, they do not establish causality. Future research could employ experimental designs where teacher engagement interventions are systematically manipulated to observe causal effects on student self-efficacy. Additionally, longitudinal studies could help in understanding how sustained teacher engagement over time affects the development of self-efficacy in students.

While it is true that student self-efficacy seems to be highly correlated with teacher involvement, there are likely other contributing factors such as student background, previous experiences in sports, and the overall school climate. Future studies should aim to control for these variables to isolate the specific impact of teacher engagement. Moreover, the generalizability of these findings might be influenced by cultural, social, or regional differences in educational settings. Therefore, replicating this study in various contexts would be beneficial to determine the universal applicability of these results. Ultimately, this study makes a substantial addition to our knowledge of the ways how teacher behaviors impact student outcomes in physical education. By linking theoretical frameworks with empirical data, it provides a compelling case for the role of teacher engagement in enhancing student self-efficacy, highlighting an area of potential intervention for educational improvements in physical education.

Table 4  
*Correlation Test*

		Students Self-Efficacy
Teachers' Engagement	Pearson Correlation	.873**
	Sig. (2-tailed)	.000
	N	587

\*\*. Correlation is significant at the 0.01 level (2-tailed).

**Hypothesis 2 (H2): A significant positive correlation exists between students' perceptions of PE practicum teachers' encouragement and students' self-efficacy in PE classes.**

Based on the data in Table 5, there is a significant positive correlation between teachers' encouragement and students' self-efficacy in physical education classes, evidenced by a Pearson correlation coefficient of 0.862. The significance level is marked at 0.000 (2-tailed), which firmly supports the statistical relevance of the results obtained from a robust sample size of 587 participants. The strong correlation between teachers' encouragement and students' self-efficacy is supported by foundational theories in educational psychology, notably Bandura's Social Cognitive Theory and Deci & Ryan's Self-Determination Theory.

Physiological states, verbal persuasion, vicarious experiences, and mastery experiences are the four pillars upon which social cognitive theory rests when it comes to building self-efficacy. In the context of physical education, teachers' encouragement can be viewed as a form of verbal persuasion that enhances students' beliefs in their abilities to succeed in specific tasks or activities. This theory suggests that when teachers actively encourage students, they help construct a positive belief system in students that promotes greater engagement and persistence in physical education activities. Self-Determination Theory emphasizes the importance of social contexts that facilitate the individual's experiences of autonomy, competence, and relatedness. Teacher encouragement can significantly contribute to the feeling of competence among students by acknowledging their skills and efforts, thereby fostering a supportive environment that is conducive to learning and personal growth.

Given the strong correlation found in this study, educational stakeholders should consider integrating structured encouragement strategies into teacher training programs for physical education. This could involve training teachers to provide specific, positive feedback that acknowledges student effort, emphasizes progress over perfection, and fosters an inclusive atmosphere that celebrates individual achievements regardless of skill level. Moreover, encouragement should be tailored to meet the diverse needs of students. Different students

may require different types and levels of encouragement depending on their self-efficacy beliefs and previous experiences in physical activities. Educators should be equipped to recognize and respond to these nuances to maximize their impact. While the results indicate a strong correlation, the relationship between teacher encouragement and student self-efficacy would benefit from further investigation through longitudinal and experimental studies. These could explore the long-term effects of consistent encouragement, as well as the potential causal relationships. Additionally, it would be insightful to examine if the impact of encouragement varies across different age groups, skill levels, and cultural backgrounds. The current study's design does not allow for causal inferences. It is also possible that other unmeasured variables such as student personality traits, peer interactions, or previous physical education experiences might influence self-efficacy. In order to have a better grasp of the dynamics involved, future studies should try to include these elements. In conclusion, the significant correlation between teacher encouragement and student self-efficacy underscores the pivotal role that positive, supportive interactions play in educational settings. These findings not only reinforce the theoretical frameworks proposed by Bandura (1986) and Deci & Ryan (2008) but also highlight the practical importance of fostering an encouraging environment in the enhancement of students' self-belief and overall engagement in physical education. This research paves the way for developing more effective educational practices that aim to boost student motivation and success through targeted encouragement strategies.

Table 5  
*Correlation Test*

Students Self-Efficacy		
Teachers' Encouragement	Pearson Correlation	.862**
	Sig. (2-tailed)	.000
	N	587

\*\*. Correlation is significant at the 0.01 level (2-tailed).

### Conclusion

Conclusions drawn from the study on the influence of Physical Education (PE) practicum teachers' engagement and encouragement on students' self-efficacy in PE classes provide compelling evidence for the critical role that teacher behaviors play in shaping student outcomes. This study identified significant positive correlations between both teachers' engagement and their encouragement of students' self-efficacy. These results underscore the profound impact that teachers can have on their students' beliefs in their abilities to succeed in physical activities, which is a cornerstone of motivational educational theories. Firstly, the correlation between teachers' engagement and students' self-efficacy highlights the importance of active and involved teaching. When teachers are engaged, they are not only present but dynamically involved in the learning process, offering guidance, support, and critical feedback in ways that resonate with students. This type of engagement helps to create a learning environment where students feel valued and understood, which is essential for fostering a positive self-concept and self-efficacy. Engaged teachers can model enthusiasm and dedication, qualities that students may internalize and emulate, thus enhancing their confidence and willingness to engage in PE activities.

Similarly, the significant positive correlation between teachers' encouragement and students' self-efficacy emphasizes the role of emotional and motivational support in educational

settings. Encouragement from teachers can help students overcome self-doubt and fear of failure, which are often significant barriers to participation in physically demanding activities. Such support not only enhances students' motivation but also strengthens their belief in their capacity to achieve specific goals. According to Bandura's Social Cognitive Theory, verbal persuasion, one form of encouragement, is a vital contributor to building self-efficacy. It suggests that when students are persuaded verbally that they possess the capabilities to succeed, their self-efficacy is bolstered, thereby improving their overall performance. The implications of these findings are substantial for the training and development of PE teachers. Educational programs for PE teachers should incorporate training components that emphasize the importance of engagement and encouragement in teaching methodologies. These programs should aim to equip future teachers with the skills necessary to foster an engaging and encouraging classroom atmosphere that can effectively boost students' self-efficacy. Furthermore, these results suggest that school policies and curricula might also benefit from a revaluation in light of the importance of teacher-student interactions. Schools should consider strategies to encourage more dynamic and supportive interactions between teachers and students as a means to enhance student outcomes in PE. Moreover, while the correlations found in this study are strong, it is also crucial to recognize that self-efficacy in PE is multifaceted and unique student traits, familial history, and past athletic experiences are just a few of the many other elements that could play a role. To provide a more complete picture of how different elements boost or lower PE students' self-efficacy, future studies should keep digging into these aspects. Lastly, this research solidifies the understanding that PE practicum teachers' engagement and encouragement are instrumental in enhancing students' self-efficacy. By continuing to foster these qualities in educators, we can create more effective and supportive environments that not only improve students' physical abilities but also build their confidence and enthusiasm for lifelong physical activity.

### **Future Research Suggestions**

The impact of practicum teachers' engagement and encouragement on students' self-efficacy in physical education (PE) classes is a significant area of study with profound implications for educational practices. Although recent findings have underscored the positive correlations between these factors, a vast landscape remains for further exploration. To build on the current body of knowledge and address existing gaps, the following detailed research directions are proposed:

#### **1. Longitudinal Studies**

Longitudinal research is crucial for understanding the sustained impact of teacher behaviors on student self-efficacy over time. Such studies can track changes in student self-efficacy from initial exposure to PE through to graduation, providing insights into the long-term effectiveness of teacher engagement and encouragement. This approach would help in determining whether initial improvements in self-efficacy are temporary or lead to lasting changes in student attitudes and competencies in physical activities.

#### **2. Experimental Designs**

To establish causal relationships between teacher behaviors and student self-efficacy, experimental studies are essential. These could involve random assignment of students to different teaching styles or specific engagement and encouragement interventions. By manipulating these variables in a controlled setting, researchers can more definitively conclude that changes in student self-efficacy are a direct result of teacher actions rather than external factors.

**3. Diverse Educational Settings**

Expanding research to include a variety of educational settings and demographics can enhance the generalizability of findings. Studies could compare urban and rural schools, different age groups, or international educational systems to assess how cultural, socioeconomic, and institutional contexts influence the effectiveness of teacher engagement and encouragement strategies.

**4. Impact of Technology**

With the increasing incorporation of technology in education, researching how digital tools and platforms impact teacher-student interactions and student self-efficacy in PE is vital. Studies might explore how virtual reality, apps, or online fitness platforms complement or replace traditional teacher engagement and how these technologies affect students' self-perception and motivation in physical education.

**5. Teacher Training Programs**

Evaluating teacher training programs designed to enhance engagement and encouragement can provide empirical support for specific educational interventions. Research could assess the outcomes of different training modules on teacher behaviors and subsequently on student self-efficacy, offering valuable feedback for curriculum developers and educational policymakers.

**6. Role of Peer Interaction**

Considering the social nature of PE, exploring the role of peers alongside teacher influences could provide a fuller picture of the educational environment. Studies might investigate how peer encouragement and competition affect individual self-efficacy, potentially identifying new areas for enhancing student engagement through group dynamics.

**7. Differentiation by Student Characteristics**

Individual differences in student backgrounds, such as gender, age, or previous sports experience, could influence how students perceive and react to teacher engagement and encouragement. Research in this area can guide more personalized approaches in PE teaching, ensuring that all students benefit optimally from educational practices.

**8. Qualitative Insights**

Qualitative research methods such as interviews, focus groups, and ethnographic studies can uncover the subjective experiences and opinions of students and teachers regarding engagement and encouragement. These insights can enrich quantitative data, providing a deeper understanding of the mechanisms through which teacher behaviors impact student self-efficacy.

**9. Comparison of Different Teaching Styles**

Comparing the effectiveness of various teaching styles will help identify which approaches are most beneficial for fostering self-efficacy in students. Research could specifically assess how authoritative, permissive, and democratic teaching styles in PE influence student motivation and performance.

**10. Interdisciplinary Approaches**

Utilizing interdisciplinary approaches that integrate psychology, education theory, and sports science could lead to the development of more comprehensive models explaining the relationship between teacher behavior and student outcomes. With this all-encompassing view, new approaches to improving students' interest and confidence in physical education may be more easily developed.

Through these detailed and focused research endeavors, the field can significantly advance our understanding of the dynamics in PE classes and develop more effective educational practices that foster healthier, more confident, and physically active students.

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### Attachment

Please email the Corresponding Author for authorisation using these questionnaires

#### Engagement

- 1 My physical education teacher actively participates in all class activities.
- 2 My physical education teacher communicates clearly and effectively, making sure all students understand the instructions.
- 3 My physical education teacher shows enthusiasm and energy during class, which makes the class more enjoyable.
- 4 My physical education teacher personally interacts with each student to assist and motivate them during activities.
- 5 My physical education teacher provides support and encouragement to students, helping them to improve their skills and confidence.

#### Encouragement

- 1 My physical education teacher regularly gives me positive feedback that helps me stay motivated.
- 2 My teacher acknowledges and praises effort, not just success, in-class activities.
- 3 My physical education teacher encourages all students to participate, regardless of their skill level.
- 4 When I find an activity challenging, my teacher encourages me to keep trying and supports my effort to improve.
- 5 My teacher inspires me to improve my skills and confidence through constant encouragement and guidance.

#### Physical Self-Efficacy

- 1 I am confident in my physical abilities during physical education classes.
- 2 I believe I am one of the more physically competent students in my class.
- 3 When faced with a challenging physical activity, I am sure I can handle it.
- 4 My physical abilities are strong compared to my classmates.
- 5 I can overcome most physical challenges presented in class.