

THE INFLUENCE OF TEACHER ENTHUSIASM ON HIGH SCHOOL STUDENTS' CLASSROOM PARTICIPATION: THE MEDIATING ROLE OF ACHIEVEMENT MOTIVATION

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Abstract: This study utilizes quantitative research methodology. Firstly, to analyze the current status of classroom participation among high school students in each subject; secondly, to examine the differences in classroom participation among students in each subject between grades and genders; and finally, to explore the influence of teacher enthusiasm on classroom participation and to analyze the mediating role of achievement motivation. The study selected 707 high school students in Guangdong to investigate classroom participation, teacher enthusiasm, and achievement goal orientation in seven subjects, including language and mathematics. The results of the study showed that: 1. classroom participation in each subject was ranked in the order of main subjects, physical education (outdoor) subjects, and auxiliary subjects, and there were grade differences in classroom participation between auxiliary subjects and main subjects, and the grades with the highest levels of classroom participation in main subjects and auxiliary subjects were the first year of high school and the second year of high school, respectively; 2. there was a significant correlation between teachers' enthusiasm and classroom participation in each subject, and teachers' enthusiasm was a significant positive predictor of classroom participation; 3. teacher enthusiasm mediated high school students' classroom participation. enthusiasm's mediating effect on high school students' classroom participation varied by subject.

Keywords: High School Students, Classroom Engagement, Teacher Enthusiasm, Achievement Motivation

Introduction

In recent years, the level and manner of student participation in classroom activities have received widespread attention. Characteristics of classroom participation in China include low frequency of participation, lack of active engagement, and insufficient teacher-student interaction. Research indicates that the current state of classroom participation is less than satisfactory, with students avoiding participation, participating infrequently, and often engaging passively. Classroom participation refers to students' cognitive engagement with course objectives and tasks, as well as their behaviors in communicating and collaborating with others. Studies have shown that a crucial measure

of teaching quality is the degree of student classroom participation and engagement; active participation in the classroom promotes students' cognitive, personality, and social development. Therefore, researching student classroom participation is of great significance. Improving the level of student classroom participation is not only the starting point for enhancing classroom quality but also the foundation for promoting student development.

Research on classroom participation in China mainly analyzes individual and environmental factors. Individual factors include gender characteristics, personality traits, academic performance, self-concept, learning motivation, etc.; environmental factors include teacher teaching behaviors, class size, teacher-student relationships, parenting styles, cultural differences, etc. Scholars have often explored the impact of teacher teaching behaviors on classroom participation from perspectives such as teaching methods, teaching styles, classroom behaviors, and teaching strategies. However, there has been a lack of in-depth exploration from the perspective of teacher enthusiasm. Teacher enthusiasm refers to the positive emotional experience and behavioral characteristics that teachers display in the process of educating students. It is a specific expressiveness in the positive conveyance of educational content. Teacher enthusiasm affects both students and teachers. Enthusiastic teachers not only motivate students and influence their learning motivation but also promote positive student development. Enthusiastic teachers also appear to be happier, healthier, more efficient in their work, and have a stronger sense of professional well-being. Research indicates that some students in China believe there is a lack of teacher enthusiasm in classroom teaching and that teacher-student relationships are indifferent. However, whether teacher enthusiasm can affect high school students' classroom participation has not been confirmed. Therefore, this study aims to explore whether and how teacher enthusiasm affects high school students' classroom participation.

In China, there are numerous factors influencing classroom participation, but empirical research is limited, with many new perspectives yet to be explored, making the research incomplete and not thorough enough. By reviewing Chinese literature and summarizing the existing information on factors affecting classroom participation among Chinese students, this study proposes the following questions:

Firstly, research subjects are primarily focused on students of specific subjects within a certain educational stage, lacking comprehensive attention across various subjects throughout the entire educational stage. Existing literature shows that research perspectives on classroom participation are singular, mainly concentrated in the field of education, with relatively few studies in the field of psychology. Therefore, considering the context of general high school education in China, this study proposes the first research question: What is the status of classroom participation among high school students? Secondly, while research mostly emphasizes individual factors affecting students, there remain unexamined variables among external environmental factors, such as teacher enthusiasm in teaching behaviors. Existing research evidence indicates that teacher teaching behaviors significantly

impact student classroom participation. However, as an aspect of teaching behavior, teacher enthusiasm has not been directly explored in relation to classroom participation. Based on this, the study proposes the second research question: What is the correlation between teacher enthusiasm and classroom participation? Lastly, research methods predominantly focus on descriptive statistics, with few studies establishing mediation models to analyze large sample data and reveal specific internal mechanisms. Research points out that there is a close relationship between teacher enthusiasm, achievement motivation, and classroom participation. Both teacher enthusiasm and achievement motivation may significantly influence classroom participation. However, whether these conclusions hold true for Chinese high school students remains to be verified. Therefore, this study proposes the third research question: Does and how does teacher enthusiasm affect high school students' classroom participation?

Research Objectives

1. To examine the state of classroom participation among high school students.
2. To examine the relationship between teacher enthusiasm and classroom participation.
3. To examine the mediating role of achievement motivation.

Literature Review

Teacher enthusiasm has long been recognized as a critical factor influencing student engagement and academic achievement. Enthusiasm in teaching can be defined as the passion and excitement that teachers display towards their subject matter and their instructional activities (Kunter et al., 2008). This enthusiasm is not only an intrinsic quality but also a communicative behavior that can significantly affect students' motivational and emotional states (Frenzel et al., 2009). In educational psychology, understanding the dynamics of how teacher enthusiasm impacts classroom participation is essential for developing effective teaching strategies that promote active learning and student involvement (Patrick, Ryan, & Kaplan, 2007).

Studies have demonstrated that enthusiastic teachers tend to create more stimulating and enjoyable learning environments, which can lead to higher levels of student engagement and participation (Anderman & Patrick, 2012; Reeve, 2012). This positive classroom atmosphere is crucial for fostering students' intrinsic motivation, which is a key determinant of their willingness to participate in class activities (Ryan & Deci, 2000). Moreover, the impact of teacher enthusiasm can vary across different educational contexts and cultures, suggesting that cultural factors may moderate the relationship between teacher enthusiasm and student engagement (Fassinger, 1995; Liu, 2018).

Classroom Participation

Classroom participation refers to the active engagement of students in the learning process, including behaviors such as attending classes, contributing to discussions, and completing assignments

(Tas, 2016). Research has indicated that classroom participation is a multifaceted construct influenced by individual, contextual, and environmental factors (Fassinger, 1995). Studies have shown that higher levels of classroom participation are associated with better academic outcomes and enhanced learning experiences (Elliot & McGregor, 2001; Mih et al., 2015).

In the Chinese educational context, classroom participation has been extensively studied in terms of frequency and the impact of specific factors, such as subject difficulty and student interest (Yang & Xu, 2019; Li, 2013). However, comprehensive research examining the combined effects of multiple factors, particularly teacher-related factors, remains limited (Liu, 2018; Zhou & Chen, 2020).

Teacher Enthusiasm

Teacher enthusiasm is defined as the enthusiasm a teacher shows towards teaching and subject matter, which can significantly impact students' motivational and emotional states (Kunter et al., 2008). Enthusiastic teachers are often perceived as more engaging and supportive, which can foster a positive classroom environment and promote student engagement (Reeve, 2012; Anderman & Patrick, 2012).

Research has demonstrated that teacher enthusiasm positively influences students' intrinsic motivation and academic performance (Saeed & Zyngier, 2012; Wolters, 2004). For instance, studies have found that students are more likely to participate and perform better in classes where teachers display high levels of enthusiasm (Fassinger, 1995; Mih et al., 2015).

Achievement Motivation

Achievement motivation refers to the internal drive that prompts students to strive for success and accomplish their academic goals (Elliot & Church, 1997). It is commonly divided into different goal orientations, such as mastery goals, performance-approach goals, and performance-avoidance goals (Wolters, 2004; Saeed & Zyngier, 2012). Mastery goals focus on learning and understanding, performance-approach goals emphasize outperforming others, and performance-avoidance goals aim to avoid doing worse than others (Elliot & McGregor, 2001). Studies have shown that different types of achievement motivations can mediate the relationship between teacher behaviors and student engagement (Mih et al., 2015; Reeve, 2012). For example, teacher enthusiasm can enhance students' mastery goals, leading to higher classroom participation (Anderman & Patrick, 2012).

Teacher Enthusiasm and Classroom Participation

Research has consistently shown a positive relationship between teacher enthusiasm and student engagement, which in turn affects classroom participation (Kunter et al., 2008; Reeve, 2012). Enthusiastic teachers are able to create an engaging and stimulating learning environment that encourages students to participate more actively in class (Anderman & Patrick, 2012; Saeed & Zyngier, 2012). This relationship has been demonstrated in various educational contexts, including primary, secondary, and higher education (Wolters, 2004; Fassinger, 1995).

A study by Kunter et al. (2008) found that teacher enthusiasm is associated with higher levels

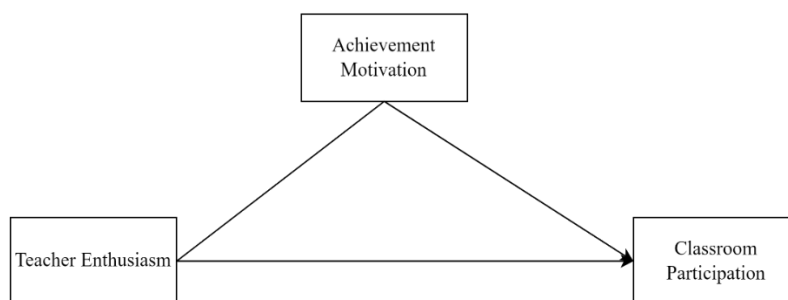
of student interest and enjoyment in learning, which are critical components of classroom participation. Similarly, Anderman and Patrick (2012) highlighted that teacher enthusiasm positively impacts students' intrinsic motivation, leading to increased engagement and participation. These findings underscore the importance of teacher enthusiasm in promoting an active and participatory classroom environment.

Achievement Motivation as a Mediator

Achievement motivation has been identified as a key mediator in the relationship between teacher enthusiasm and student engagement (Elliot & Church, 1997; Mih et al., 2015). Achievement motivation encompasses various goal orientations, including mastery goals, performance-approach goals, and performance-avoidance goals, each of which can influence students' classroom behaviors differently (Elliot & McGregor, 2001). Studies have shown that teacher enthusiasm can enhance students' mastery goals, which focus on learning and understanding, thereby increasing their classroom participation (Anderman & Patrick, 2012; Wolters, 2004). For example, Reeve (2012) demonstrated that students in classrooms with enthusiastic teachers were more likely to adopt mastery goals, leading to higher levels of engagement and participation. Conversely, when teacher enthusiasm is low, students are more likely to adopt performance-avoidance goals, which can negatively impact their participation (Saeed & Zyngier, 2012).

Conceptual Framework

In response to the questions posed, this study takes a new perspective and approach, aiming to examine the differences and factors affecting Chinese high school students' classroom participation in various subjects, with particular attention to the differences in grade level, gender, and teaching environments inside and outside the household, as well as the effects of teacher enthusiasm and achievement motivation. By exploring the mediating role of achievement motivation in teacher enthusiasm on classroom participation supported by the achievement goal orientation theory, in order to develop a deeper theoretical understanding of the nature of classroom participation and the whole mechanism of its role and influence, and will construct a theoretical basis and guidance for enhancing classroom participation in teaching practice. The conceptual framework is shown below:



Picture 1: Conceptual Framework

Research Hypothesis

H1: High school students' classroom participation across subjects varies by grade level and gender.

H2: Teacher enthusiasm has a positive effect on classroom participation across different subjects.

H3: Achievement motivation mediates the relationship between teacher enthusiasm and classroom participation.

Methodology

Quantitative research methods were used to organize and analyze the collected data using SPSS, and the data were subjected to common method bias test, descriptive statistics, correlation analysis, and mediation effect test.

In this study, 800 questionnaires were distributed to 23 classes in 7 schools and 734 questionnaires were collected, of which 707 were valid, using the cluster sampling method and selecting high school students in Guangdong Province as the target population.

Results

The overall Cronbach's Alpha value for the survey questionnaire, as shown in Table 1, is 0.926, indicating excellent internal consistency reliability of the scales used in this study.

Table 1: Results of Reliability Analysis

Number of questions	Cronbach 's α
29	0.926

The Cronbach's Alpha values for each variable's scale were measured, as detailed in Table 2. It can be observed that all α values for the scales in this study are above 0.7, indicating high reliability of the scales for each variable in this study.

Table 2: Results of Reliability Analysis for Each Variable

Variable	Number of questions	Cronbach 's α
Teacher Enthusiasm	3	0.877
Achievement Motivation	14	0.834
Classroom Participation	12	0.856

The data were subjected to a discriminatory process of suitability for factor analysis and the results are shown in Table 3.

Table 3: KMO and Bartlett's Test^a

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.973
Bartlett's Test of Sphericity	Approx. Chi-Square df Sig.	4656.172 560 0.000

From Table 3, the overall KMO value of the questionnaire is $0.973 > 0.9$ and the Bartlett's test Sig value is 0.000. this indicates that the scale is suitable for factor analysis and can be tested in the next step.

The basic picture of classroom participation of high school students in each subject was derived from descriptive statistics of the data in each subject of the Student Classroom Participation Scale and the results are shown in Table 4.

Table 4: Descriptive Statistics of High School Students' Classroom Participation in Various Subjects

Name	Mean	Standard deviation	Post hoc comparison
Main subject classroom participation	4.064	0.602	Primary Subjects > Physical Education > Minor Subjects
Minor subject classroom participation	3.665	0.664	
Physical Education (Outdoor) Classroom Participation	3.669	0.729	

Note: The main subjects are Language Arts, Mathematics, and English; the minor subjects are Psychology, Music, and Art, the same below.

The data in Table 4 shows that the classroom participation scores of high school students were above 3.6 for each subject, which indicates that high school students are in an intermediate to high level of classroom. Repeated measures ANOVA results showed that there was a significant difference between classroom participation in each subject, $F=89.07$, $p<0.001$. post hoc comparisons showed that classroom participation scores in each subject were ranked from high to low in the order of major, physical education, and minor subjects.

A one-way analysis of variance (ANOVA) was conducted to analyze the classroom participation of high school students at different grade levels with each subject, and the results are shown in Table 5.

The data in Table 5 show that there are significant differences between high school students in different grades in terms of classroom participation in the main subject, and the post hoc test found that students in the first year of high school had significantly higher classroom participation in the main subject than the remaining two grades; there are also significant differences between high school students in different grades in terms of classroom participation in the minor subject, and the post hoc test found that students in the second year of high school had higher classroom participation in the

minor subject than the remaining two grades; but there is no significant difference in terms of participation of high school students in different grades in terms of classroom participation in physical education (outdoor) classroom participation did not differ significantly. An independent samples t-test was conducted on the classroom participation of high school students of different genders in relation to each subject and the results are shown in Table 6.

Table 5: Tests of Grade Level Differences in High School Students' Classroom Participation in Various Subjects

Grade level (mean ± standard deviation)	Primary subject classroom participation	Minor Subject Classroom Participation	Physical education classroom participation
Senior year (n=294)	4.13±0.57	3.69±0.63	3.68±0.73
Sophomore (n=314)	4.05±0.61	3.70±0.70	3.71±0.75
Senior year (n=99)	3.93±0.63	3.48±0.62	3.51±0.64
F	4.407	4.342	2.983
<i>p</i>	0.013*	0.013*	0.051
Post hoc comparisons	Senior year > sophomore year > junior year	Sophomore > Senior > Junior	-
Note: * <i>p</i> <0.05, ** <i>p</i> <0.01, below.			

Table 6: Test of Gender Differences in Classroom Participation of High School Students in Various Subjects

Grade level (mean ± standard deviation)	Primary subject classroom participation	Minor Subject Classroom Participation	Physical education classroom participation
Male (n=304)	4.05±0.65	3.61±0.68	3.71±0.73
Female (n=403)	4.07±0.57	3.70±0.65	3.64±0.73
F	-0.417	-1.766	1.431
<i>p</i>	0.677	0.078	0.153

The data in Table 6 shows that there is no significant difference between male and female high school students in terms of classroom participation in major and minor subjects as well as in physical education (outdoor).

Pearson's cumulative difference correlation analyses were conducted on the three dimensions of classroom participation, teacher enthusiasm, and achievement motivation in the major, minor, and physical education (outdoor) disciplines, and the results are shown in Table 7.

The data in Table 7 shows a significant positive correlation between two and two on the task orientation, performance-convergence orientation, and performance-avoidance orientation dimensions of classroom participation, teacher enthusiasm, and achievement motivation across all high school subjects.

One of the purposes of this study was to examine the mediating effects of the three dimensions of achievement motivation between teacher enthusiasm and classroom engagement across disciplines. After controlling for demographic variables, the mediating variables between teacher enthusiasm and

classroom engagement were added to the three dimensions of Achievement Motivation, Mastery Goal Orientation, Performance-Convergence Goal Orientation, and Performance-Avoidance Goal Orientation, across disciplines, and the mediating effects were examined.

Table 7: Correlation Analysis of Teacher Enthusiasm, Classroom Participation and Achievement Motivation of High School Students in Various Subjects

		Classroom Participation	Teacher enthusiasm	Achievement Motivation	Performance-Convergence	Performance-Avoidance
Main Subject	Classroom participation	1				
	Teacher enthusiasm	0.616**	1			
	Mastery of Objectives	0.396**	0.437**	1		
	Performance-convergence	0.236**	0.260**	0.475**	1	
	Performance-Avoidance	0.394**	0.315**	0.370**	0.525**	1
Minor Subjects	Classroom participation	1				
	Teacher enthusiasm	0.564**	1			
	Mastery of Objectives	0.427**	0.379**	1		
	Performance-convergence	0.184**	0.147**	0.397**	1	
	Performance-Avoidance	0.177**	0.116**	0.224**	0.424**	1
Physical Education (Outdoor)	Classroom participation	1				
	Teacher enthusiasm	0.539**	1			
	Mastery of Objectives	0.432**	0.287**	1		
	Performance-convergence	0.197**	0.135**	0.452**	1	
	Performance-Avoidance	0.160**	0.086*	0.273**	0.457**	1

The data in the regression analysis show that in the high school mastery classroom, teacher enthusiasm has a direct effect value of .510 on classroom participation, with the pathways "teacher enthusiasm => mastery goal orientation => classroom participation" and "teacher enthusiasm => performance-avoidance goal orientation => classroom participation" The pathways "teacher enthusiasm => performance-approach goal orientation => classroom participation" were partially mediated; the pathway "teacher enthusiasm => performance-approach goal orientation => classroom participation" had a masking effect; in the adjunct classroom, the direct effect of teacher enthusiasm on classroom

participation was 0.471, and the direct effect of "teacher enthusiasm The direct effect of teacher enthusiasm on classroom participation was 0.471, with the paths "teacher enthusiasm => mastery goal orientation => classroom participation" and "teacher enthusiasm => performance-avoidance goal orientation => classroom participation" having a masking effect.

In high school physical education (outdoor), the direct effect of teacher enthusiasm on classroom participation was 0.416, and only one pathway, "teacher enthusiasm => mastery of goal orientation => classroom participation," was partially mediated.

These results indicate that in the high school classroom, the direct effect of teacher enthusiasm on classroom participation was above 0.4 for all subjects, indicating that teacher enthusiasm had a significant effect on classroom participation in all subjects. In the main subject classroom, teacher enthusiasm has a significant indirect effect on classroom participation through the mastery goal orientation of achievement motivation, the performance-convergence goal orientation, and the performance-avoidance goal orientation; in the secondary subject classroom, teacher enthusiasm has a significant indirect effect on classroom participation through the mastery goal orientation of achievement motivation, and the performance-avoidance goal orientation; and in the physical education (outdoor) classroom, enthusiasm has a significant direct effect on classroom participation through the mastery goal orientation of achievement motivation and the performance-avoidance goal orientation.

Discussion

This study investigated the differences in classroom participation and gender among Chinese high school students in each subject. The results of the study confirmed that there is no gender difference in classroom participation across subjects among Chinese high school students. This result is contrary to the existing view and hypothesis H1 of this study. Some studies may suggest that certain cultural or social factors may affect the classroom participation activities of students of different genders, e.g., male students will participate more actively in the classroom of physical education subjects than female students. However, it is possible that due to the change in cultural attitudes and the development of social norms, redistribution of educational resources, etc., these factors promote respect for individual differences, gender equality, and encouragement for both boys and girls to be able to choose areas of interest and thus actively participate in the classroom.

The above findings suggest that teacher enthusiasm is a key factor in promoting student engagement and motivation in the classroom, which is largely consistent with hypothesis H2 of this study. Teacher enthusiasm not only reflects the degree of teachers' love, responsibility and happiness for teaching, but also affects the level of students' motivation and enthusiasm for learning. Therefore, the growth of teacher enthusiasm can enhance both teaching skills and teaching effectiveness, which is consistent with the results of previous studies.

From the results of the mediation test of high school students' classroom participation, teacher enthusiasm and achievement motivation in this study, it was found that teacher enthusiasm had a direct effect on students' classroom participation, and this direct effect was present in the main subject, the secondary subject and the physical education subject. This result fully validates the hypothesis H2 of this study, and the cross-disciplinary consistency of teacher enthusiasm on high school students' classroom participation further emphasizes the importance of teacher enthusiasm. Teacher enthusiasm can have an indirect effect on classroom participation through achievement motivation, i.e., achievement motivation partially mediates the relationship between teacher enthusiasm and classroom participation. This result suggests that teacher enthusiasm not only directly affects high school classroom participation, but also indirectly affects classroom participation by activating high school students' achievement motivation, a finding that is partially consistent with previous research on achievement motivation. In order to better explore the influence of teacher enthusiasm and high school students' classroom participation in a deep internal systematic way, this study also conducted a test of the mediating effect of the dimensions of achievement motivation between teacher enthusiasm and high school students' classroom participation in various subjects, and the results of the study found that there is a complex correlation between teacher enthusiasm, classroom participation in various subjects, and the dimensions of achievement motivation, which is basically consistent with the hypothesis H3 of this study.

Conclusions

This study examined the effect of achievement motivation on teacher enthusiasm and classroom participation in a mastery classroom of high school students and found that three dimensions of achievement motivation, namely mastery-goal orientation, performance-convergence-goal orientation, and performance-avoidance-goal orientation, acted as a partial mediator or a masking effect between teacher enthusiasm and participation in a mastery classroom, with the three pathway models accounting for the effects of 8.069%, 3.360%, and 9.093%. This shows that for students with performance-avoidance goal orientation, teacher enthusiasm can increase their classroom participation, which is inconsistent with previous researchers' findings that performance-avoidance orientation negatively predicts learning participation. It may be because some students in the Chinese educational context may take test scores as their only goal and neglect their own experiences and interests in the learning process; they are afraid of failures and negative evaluations to avoid losing their chances and face, whereas teacher enthusiasm will bring them positive feedback and support, which gives them more motivation to engage in classroom activities. However, for performance-approach oriented students, teacher enthusiasm produces a masking effect, which is consistent with the results of previous scholars' studies. Performance-approach oriented students are more complex in their participation, which indicates that

this part of the students already have enough intrinsic motivation, and don't need external incentives and feedbacks to support their learning, and they are more focusing on the intrinsic value and significance of their learning process rather than simply pursuing high grades, and for this group of students, teacher enthusiasm may not have much effect.

This study found that both mastery goal orientation and performance-avoidance goal orientation partially mediated the relationship between teacher enthusiasm and classroom participation in the adjunct classroom, with the mediating effects of this pathway accounting for 11.386% and 1.467% of the total effect. This result suggests that high school students are more likely to influence classroom participation in the minor through mastery goal orientations under the influence of teacher enthusiasm, and that students typically participate more actively in the minor's classroom because they do so by achieving high grades or receiving positive evaluations. This may occur because adolescents in the Chinese educational context are more often required to develop morally, intellectually, physically, spiritually, and aesthetically, and students are usually more appreciated, paid attention to, and recognized by society or their parents for their excellent performances in the highly competitive social environment, especially in high school minors led by music and art, an explanation that is consistent with the findings of some previous studies. The generally low mediating effect of achievement motivation on teacher enthusiasm and classroom participation in the minor subjects compared to the major subjects may be due to the fact that in the context of China's general high school education environment and the college entrance examination model, students perceive the minor subjects to be less important than the major subjects, and therefore are less motivated to excel in the minor subjects, which may lead to a weaker mediating effect of achievement motivation on classroom participation in the minor subjects.

The present study added high school students' classroom participation in physical education as one of the observational objects to explore the differences between the three dimensions of achievement motivation for physical education as an outdoor subject and other subjects in terms of teacher enthusiasm as well as classroom participation, and it was found that only mastery goal orientation partially mediated the difference between teacher enthusiasm and physical education (outdoor) classroom participation in the three dimensions of high school students' achievement motivation, and the mediating effect was 14.814% of the total effect, respectively. Motivation for mastery goal orientation reflects students' desire to develop competence or improve their knowledge of new skills. This finding suggests that, on the one hand, students equipped with mastery goal orientation are more likely to actively participate in classroom activities when the teacher is enthusiastic. On the other hand, performance-convergent goal orientation and performance-avoidance goal orientation did not mediate significantly between teacher enthusiasm and mastery classroom participation, which may indicate that classroom participation in physical education (outdoor) may not be as influential for students who focus

on achieving high scores or receiving positive evaluations and avoiding low scores or receiving negative evaluations as it is for students who focus on their own development or on improving their knowledge of new skills. Of these, mastery goals appear to be the strongest mediator when compared to other disciplines, suggesting that students motivated to master new skills and knowledge tend to be more actively engaged in classroom activities in PE when they feel enthusiastic about their teachers. The results of students' classroom participation in physical education accounted for a somewhat higher effect ratio compared to classroom participation in other minors, possibly due to the fact that it is only outdoors and students feel teacher enthusiasm more strongly in physical education than in other minors, which also increases students' motivation to achieve and thus influences classroom participation.

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