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Article

The Impact of a Positive School Atmosphere on Chinese Students' Learning Engagement: The Mediating Role of Positive Emotions and Academic Self-Efficacy

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Abstract: This study aims to examine the impact of a positive school atmosphere on the learning engagement of Chinese university students, with a particular focus on the mediating roles of positive emotions and academic self-efficacy. Using a quantitative research design, data were collected from a representative sample of students through carefully structured questionnaires that measured perceptions of school climate, emotional states, self-efficacy beliefs, and engagement behaviors. Structural equation modeling was employed to rigorously analyze the complex interrelationships among these variables and to identify both direct and indirect effects. The results reveal that a supportive, inclusive, and encouraging school environment significantly enhances students' participation, attention, and persistence in academic activities. Furthermore, the findings indicate that positive emotions, reflecting students' feelings of enjoyment, satisfaction, and motivation, as well as academic self-efficacy, reflecting students' confidence in their ability to achieve learning goals, partially mediate the effect of school atmosphere on engagement. This suggests that a favorable school climate not only directly motivates students but also fosters psychological states that reinforce their commitment to learning. These insights provide important theoretical implications for educational practice, emphasizing that institutions should integrate efforts to cultivate a positive, student-centered atmosphere with strategies that strengthen students' emotional well-being and self-belief, thereby promoting sustained learning motivation, academic achievement, and overall personal development.

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1. Introduction

1.1. Importance of Learning Engagement in Contemporary Education

In recent years, the global education system has increasingly emphasized the need for high-quality and holistic student development. Within this framework, learning engagement has emerged as a core indicator of educational effectiveness, reflecting students' behavioral, emotional, and cognitive involvement in academic activities. High levels of engagement are associated with improved academic performance, stronger motivation, and better long-term educational outcomes. Engaged students are more likely to participate actively in class, complete assignments with diligence, and seek opportunities for self-directed learning. Consequently, fostering learning engagement has

become a central goal for educators and policymakers seeking to enhance both the quality and equity of education.

Learning engagement is not solely determined by individual effort; it is influenced by the broader educational environment in which students operate. Schools serve as the primary context for learning, and the quality of this environment—including social support, instructional practices, and institutional culture—directly affects students' engagement levels. In particular, psychological and emotional factors within the school setting have been shown to either facilitate or hinder sustained learning behaviors. Thus, understanding the mechanisms that promote engagement is essential for developing effective interventions that support students' academic growth and holistic development.

1.2. Role of School Atmosphere in Shaping Student Outcomes

School atmosphere, encompassing the overall climate, culture, and social environment of an institution, has been widely recognized as a key determinant of student outcomes. A positive school atmosphere is characterized by supportive relationships among teachers and peers, clear behavioral norms, and an environment that encourages participation and personal growth. Research indicates that such environments can foster students' interest in learning, enhance emotional well-being, and improve behavioral outcomes [1]. In the context of China's exam-oriented education system, students often face substantial academic pressure, which can adversely affect motivation, concentration, and emotional health. A constructive school atmosphere can mitigate these pressures by providing psychological support, reducing anxiety, and promoting adaptive coping strategies.

Furthermore, a favorable school climate contributes to the development of critical socio-emotional skills, such as collaboration, resilience, and self-regulation. These skills are essential not only for academic achievement but also for long-term personal and social development. By creating an inclusive and supportive environment, schools can cultivate students' intrinsic motivation, strengthen engagement, and foster positive attitudes toward learning. Consequently, the school atmosphere is not merely a backdrop for instruction but an active force shaping students' educational experiences.

1.3. Mediating Mechanisms: Positive Emotions and Academic Self-Efficacy

While school atmosphere plays a direct role in influencing learning engagement, its effects are often mediated by psychological factors, particularly positive emotions and academic self-efficacy. Positive emotions, including feelings of enjoyment, satisfaction, and enthusiasm, can energize students to confront academic challenges and persist in their studies. Such emotions enhance cognitive flexibility, creative problem-solving, and attention, all of which contribute to deeper and more sustained engagement in learning tasks. In this way, the emotional dimension acts as a bridge connecting environmental support with active learning behaviors.

Academic self-efficacy, defined as students' belief in their ability to successfully accomplish academic tasks, represents another critical mediating factor. Students with high self-efficacy are more likely to set challenging goals, invest effort in learning activities, and recover from setbacks. When supported by a positive school atmosphere, students' confidence in their academic capabilities is reinforced, which further amplifies their engagement. By integrating both positive emotions and self-efficacy into a conceptual framework, it becomes possible to capture the psychological pathways through which school atmosphere shapes learning behaviors.

Despite the recognized importance of these mechanisms, empirical studies examining the interaction among school atmosphere, positive emotions, and academic self-efficacy remain limited in the context of Chinese higher education. Understanding these relationships is essential for designing evidence-based interventions that enhance engagement, improve academic outcomes, and support students' mental well-being.

Accordingly, this study aims to construct and validate a path model to explore how a positive school atmosphere influences learning engagement through these mediating factors, offering both theoretical insights and practical guidance for educational practice.

2. Problem Statement

In contemporary educational practice, school atmosphere is widely recognized as a fundamental factor influencing students' academic performance, learning engagement, and psychological development. A positive school atmosphere, characterized by supportive teacher-student relationships, clear behavioral norms, and an encouraging learning environment, can significantly enhance students' interest in learning, intrinsic motivation, and overall academic achievement. Despite this recognition, empirical research examining the mechanisms through which school atmosphere affects learning engagement remains limited [1]. Existing studies predominantly focus on the direct effects of school climate on academic outcomes, with insufficient attention to the mediating roles of psychological factors such as emotions and self-beliefs.

Positive emotions are increasingly acknowledged as a crucial driver of learning engagement. Experiencing enjoyment, satisfaction, and enthusiasm in learning can energize students, enhance cognitive flexibility, and promote sustained attention to academic tasks. These emotional experiences not only stimulate students' intrinsic motivation but also facilitate the development of adaptive learning behaviors that contribute to higher academic performance [2]. Academic self-efficacy, defined as students' confidence in their ability to successfully accomplish learning tasks, similarly plays a critical role in engagement. Students with higher self-efficacy are more likely to set challenging learning goals, persist in the face of difficulties, and adopt effective learning strategies, leading to improved performance and a more positive educational experience [3].

However, the interaction between school atmosphere, positive emotions, and academic self-efficacy has not been sufficiently explored, particularly within the cultural and educational context of China [4]. The pathways through which a constructive school climate fosters engagement by shaping students' emotional states and reinforcing their self-efficacy remain unclear. Addressing this gap is essential for developing a comprehensive understanding of the psychological mechanisms underlying learning engagement and for designing interventions that promote both academic achievement and mental well-being. This study seeks to fill this gap by constructing and validating a path model that examines how a positive school atmosphere can enhance learning engagement through the mediating effects of positive emotions and academic self-efficacy. By elucidating these relationships, the findings provide theoretical support for educational practice and offer practical guidance for teachers and policymakers aiming to create supportive, student-centered learning environments that foster holistic development [5].

3. Conceptual Framework

This study proposes a conceptual framework that posits a positive school atmosphere enhances students' learning engagement by fostering positive emotions and strengthening their academic self-efficacy. Figure 1: School atmosphere, as an external environmental variable, profoundly impacts students' psychological state; positive emotions and self-efficacy, as mediating variables, bridge the gap between external support and learning behavior. A positive school atmosphere stimulates students' interest in learning and fosters a sense of belonging; positive emotions further enhance intrinsic motivation; and academic self-efficacy strengthens learning confidence and perseverance. Ultimately, all three factors work together to improve students' learning engagement and academic performance.

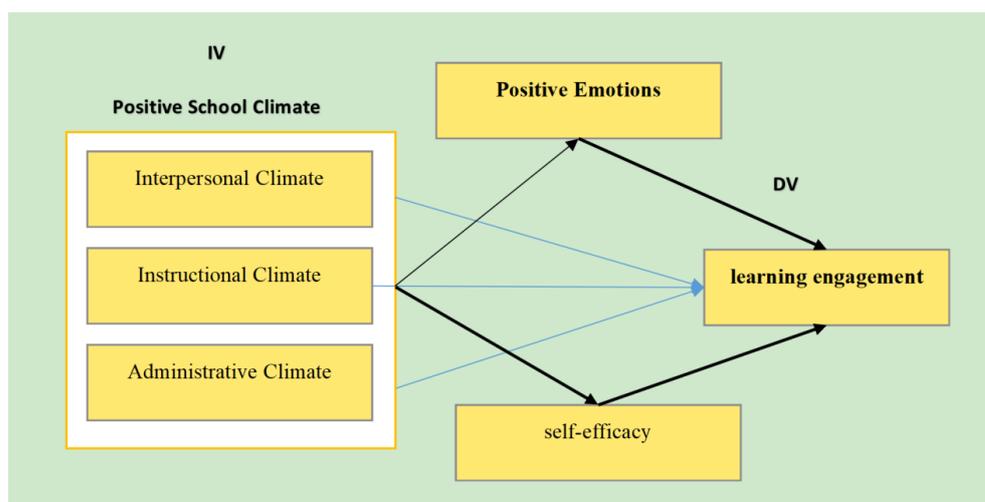


Figure 1. Conceptual Framework.

4. Literature Review

Extensive research has consistently demonstrated that a positive school atmosphere is closely associated with students' academic performance, mental well-being, and social adaptability. A supportive and constructive school environment, characterized by fair school management, effective classroom interaction, and positive teacher-student relationships, provides students with the necessary psychological and social resources to engage fully in learning activities [6]. Such an environment not only fosters academic motivation but also cultivates students' confidence, resilience, and adaptability, which are critical for long-term educational success.

Learning engagement is generally conceptualized as comprising three interrelated dimensions: behavioral, affective, and cognitive engagement. Behavioral engagement reflects students' active participation in classroom activities and adherence to academic responsibilities. Affective engagement refers to students' emotional involvement and enthusiasm for learning, while cognitive engagement captures their investment in understanding complex concepts and employing effective learning strategies. The core of these dimensions is students' sustained attention and active involvement, which serve as essential indicators of educational quality and learning outcomes.

Academic self-efficacy, as a crucial psychological resource, plays a significant role in shaping learning behavior and outcomes. Students with higher levels of self-efficacy tend to set more challenging goals, persist in the face of difficulties, and employ effective strategies for problem-solving. Positive emotions, including enjoyment, satisfaction, and enthusiasm, can directly enhance students' participation in learning activities and simultaneously strengthen self-efficacy, thereby promoting learning persistence and deeper cognitive engagement. The dynamic interplay among school atmosphere, positive emotions, and academic self-efficacy forms a critical pathway influencing students' learning engagement and overall academic success. Understanding these interrelationships is therefore essential for designing supportive educational environments and interventions that foster both psychological well-being and academic achievement [6].

5. Positive Campus Atmosphere

A positive school atmosphere refers to the overall supportive, respectful, and inclusive environment within an educational institution, encompassing the interactions and relationships among students, teachers, and staff. Such an atmosphere is characterized by a sense of security, fairness, active participation, and mutual respect, which collectively contribute to students' academic performance, emotional well-being,

and social adaptability [1]. The benefits of a positive school climate extend beyond academic achievement, as it also fosters socio-emotional development, enhances interpersonal skills, and cultivates students' motivation and resilience.

A positive school atmosphere is a multidimensional construct, generally encompassing three primary aspects: interpersonal atmosphere, academic atmosphere, and administrative atmosphere. The interpersonal dimension emphasizes harmonious, respectful, and supportive relationships between students and educators, as well as peer collaboration. The academic dimension focuses on intellectual stimulation, effective teaching strategies, and opportunities for active learning and critical thinking. The administrative dimension pertains to transparent, fair, and student-centered management practices that promote trust, inclusion, and a sense of belonging. Together, these dimensions create a comprehensive and dynamic environment that not only facilitates learning engagement but also supports students' holistic development, including their emotional regulation, problem-solving abilities, and social participation.

6. Definition of Learning Engagement

Learning engagement refers to the degree of interest, motivation, and active participation that students demonstrate throughout the learning process. It is a multidimensional concept, typically encompassing behavioral, affective, and cognitive dimensions. Behavioral engagement represents students' observable actions, such as attending classes, completing assignments, participating in discussions, and adhering to academic responsibilities. Affective engagement captures students' emotional involvement, including enthusiasm, satisfaction, and positive attitudes toward learning. Cognitive engagement involves students' investment in understanding complex concepts, employing critical thinking, and applying effective learning strategies to acquire deeper knowledge.

In this study, learning engagement is defined as the integrated manifestation of behavioral effort, positive affective experience, and deep cognitive involvement during the learning process. Behavioral effort reflects sustained participation and commitment to academic tasks, positive affective experience highlights students' emotional investment and enjoyment of learning, and cognitive involvement emphasizes the active processing and application of knowledge. By considering all three dimensions collectively, this study provides a comprehensive evaluation of students' overall engagement, which is a key indicator of educational quality, learning outcomes, and long-term academic success [4].

7. Academic Self-Efficacy

Academic self-efficacy refers to students' beliefs in their ability to successfully complete learning tasks, overcome challenges, and achieve academic goals. It is a core psychological resource that influences motivation, persistence, and the adoption of effective learning strategies. Students with higher levels of academic self-efficacy are more likely to set ambitious learning goals, maintain effort in the face of difficulties, and engage in self-regulated learning behaviors that enhance both performance and personal growth.

In this study, academic self-efficacy is specifically defined as students' confidence in coping with academic challenges and achieving success in educational settings. This belief system has a direct and positive impact on both learning engagement and emotional experience. High self-efficacy reinforces persistence and resilience, enabling students to approach learning tasks proactively rather than reactively. Moreover, self-efficacy interacts dynamically with other psychological factors, such as positive emotions, to create a reinforcing cycle that promotes sustained engagement, deeper cognitive processing, and improved academic outcomes.

8. Positive Learning Attitude

Positive emotions in the learning context refer to students' experiences of pleasure, satisfaction, pride, interest, and intrinsic enjoyment during academic activities. Such emotions are critical not only for motivating students to participate actively in learning but also for enhancing their academic self-efficacy and psychological resilience. Positive emotional experiences can help students manage stress, maintain focus, and adopt adaptive learning strategies, thereby supporting both short-term engagement and long-term educational development.

In this study, positive emotions are defined as the combination of enjoyment, sense of accomplishment, intrinsic satisfaction, and intellectual interest experienced by students throughout the learning process. These emotions are regarded as essential psychological resources that stimulate enthusiasm, promote persistence, and enhance cognitive investment in learning tasks. By cultivating positive emotional experiences, educational institutions can create a feedback loop in which students' engagement, self-efficacy, and academic performance are mutually reinforced, ultimately contributing to higher-quality learning outcomes and holistic development.

9. Research Methods

This study employed a quantitative research design, targeting undergraduate students in Chinese universities. Data was collected online through the "Questionnaire Star" platform and included four components: school atmosphere, positive emotions, academic self-efficacy, and learning engagement. A stratified random sampling method was used to sample students from different grades and majors. Data analysis was performed using SPSS 26.0 and AMOS software, including descriptive statistics, correlation analysis, and mediation effect testing. Cronbach's α coefficient was used to validate reliability, while exploratory and confirmatory factor analyses were used to test validity. The research hypotheses included: (1) a positive school atmosphere significantly and positively predicts learning engagement; (2) positive emotions mediate the relationship between the two; and (3) academic self-efficacy also partially mediates the relationship.

10. Results and Discussion

Data analysis will be conducted using SPSS 26.0 software. First, descriptive statistical analysis will be performed to present the basic characteristics of the sample. Second, correlation analysis will be conducted to examine the relationships between variables. Then, independent samples t-tests will be used to analyze differences among different demographic variables. Finally, mediation effect analysis (e.g., the PROCESS macromodel) will be used to verify whether positive emotions and academic self-efficacy mediate between school atmosphere and learning engagement. The reliability of the questionnaire will be tested using the Cronbach's alpha coefficient. According to Ning (2017), an alpha coefficient of 0.7 or higher indicates good internal consistency of the scale. The alpha coefficients for each subscale and the entire questionnaire will be calculated separately to verify its reliability. Regarding validity and construct validity, this study will employ a combination of exploratory factor analysis and confirmatory factor analysis. First, the KMO value and Bartlett's test of sphericity will be used to assess whether the data are suitable for factor analysis. If the KMO value is greater than 0.8 and the Bartlett's test of sphericity is significant ($p < 0.05$), the questionnaire indicates good construct validity. In addition, confirmatory factor analysis will be conducted using AMOS software to examine the fit indices of each measurement dimension in order to verify the rationality and validity of the scale concepts.

The results showed a significant positive correlation between school atmosphere and learning engagement, positive emotions, and academic self-efficacy. Structural equation modeling analysis supported the hypothesis that a positive school atmosphere not only

directly affects students' learning engagement but also has indirect effects through positive emotions and self-efficacy. Among these, positive emotions had a strong mediating role, indicating the crucial role of emotional experience in learning behavior.

The study further found that teacher support and a sense of fairness in the classroom have a decisive impact on students' learning enthusiasm and confidence. These findings suggest that school administrators should focus on building an emotionally supportive environment and establishing psychological support mechanisms to comprehensively improve the quality of education.

11. Conclusion

This paper focuses on the impact of a positive campus atmosphere on Chinese students' learning engagement and further explores the mediating roles of positive emotions and academic self-efficacy. Through a literature review, this study finds that the campus atmosphere is not only an important environmental factor influencing students' learning status, but also indirectly promotes students' learning engagement by stimulating positive emotions and enhancing their academic self-efficacy. Based on positive psychology and social cognitive theories, this study uses quantitative research methods to empirically analyze the relationship between campus atmosphere, positive emotions, academic self-efficacy, and learning engagement. The results not only verify the significant positive impact of a positive campus atmosphere on students' learning engagement, but also clarify the partial mediating role of positive emotions and academic self-efficacy, further enriching the theoretical framework of the mechanisms influencing learning engagement. The findings of this study provide theoretical support and practical suggestions for universities to improve students' learning motivation and educational quality from both environmental and psychological dimensions. This study emphasizes the importance of creating a positive campus atmosphere and suggests that universities should pay more attention to cultivating students' emotional experiences and self-efficacy in the process of promoting students' academic development.

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