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Academic Achievement in Thai Secondary Schools: The Influence of Student Motivation and School Climate

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Abstract
The study examined the relationship between the two most important factors psychological (motivation) and environmental (school climate) and students' academic achievement in Thailand. A quantitative and cross sectional study design was followed to obtained primary data from 450 students from public secondary schools across three provinces: Chiang Mai, Khon Kaen, and Nakhon Si Thammarat. Descriptive and regression analysis were utilized to analyze the data. The results highlighted that both the motivation and school climate is significantly and positively associated with students' academic achievement ($r = .52$, $p < .01$ and $r = .39$, $p < .01$) respectively. The the combined effect of motivation and school climate emerged as the strongest predictor of academic achievement ($\beta = .42$), followed by, motivation ($\beta = .35$) and school climate ($\beta = .29$). The multiple regression model was statistically significant ($P<0.05$) and the predictor variables (motivation, school climate and interaction of motivation and school climate) explained 46 percent variation in students' academic achievement ($R^2=0.46$). The finding focuses on the important role of intrinsic motivation and contextual factors in student performance by supporting theoretical models such as Self-Determination and Ecological Systems theory. The study concluded that both the internal motivation and contextual conditions are the significant contributors of students' academic achievement.

Keywords: Academic achievement, motivation, school climate, quantitative study, Thailand

I. Introduction

Academic success has always been an important way to judge how well schools are working, how much students are learning, and how a country is developing. Around the world, improving student performance is a top goal for government leaders, teachers, and researchers (Schunk et al., 2014). In Thailand, doing well in school is seen as a sign that schools are effective and that the country is moving forward in global competition. Recent changes in Thailand's education system have focused on helping students perform better, especially because of the country's results in international tests like the Programme for International Student Assessment (PISA) (OECD, 2020).

Even with ongoing efforts, there are still large differences in how students perform in school across Thailand. These differences are caused by factors like regional location, income levels, and the type of school students attend (UNESCO, 2022). For instance, students in cities usually do better than those in rural areas because they have better access to trained teachers, learning materials, and extra academic support. Also, students from wealthier families often receive more educational opportunities and support from home, which increases the gap in school performance (World Bank, 2019). These issues have led to a growing interest in not just the physical and financial resources, but also the psychological and environmental factors that affect learning.

Among the different psychological factors, motivation is one of the most important for student success. It affects how much effort students put into their schoolwork, how well they handle challenges, and how much they enjoy learning (Ryan & Deci, 2000). Students who are motivated are more likely to set goals, manage their actions, and aim to do their best. According to Self-Determination Theory (SDT), when students feel they have control (autonomy), can succeed (competence), and feel connected to others (relatedness), they become more motivated from within. This kind of motivation, called intrinsic motivation, happens when students learn because they enjoy it, not just for rewards. It has been shown to improve learning, creativity, and emotional health (Gillet et al., 2012).

On the other hand, extrinsic motivation—which comes from outside rewards like grades or praise can also affect how students behave in school. However, it may not help them stay interested or grow in the long term (Wigfield & Eccles, 2002). Even though both intrinsic and extrinsic motivation can exist together, helping students develop intrinsic motivation is usually better for their overall growth. In Thailand's education system, though, teaching methods often focus more on external rewards like exam results and class positions. This focus may stop students from developing deeper and more self-driven motivation (Kim, 2005

Besides motivation, the overall school environment known as school climate also plays an important role in how well students do in school. School climate includes many factors, like how safe students feel, how teachers and students interact, how students get along with each other, how classrooms are managed, and the general feeling or atmosphere in the school (Wang & Degol, 2016). A positive school climate makes students feel they belong, gives them emotional support, and encourages them to do well in their studies. All of these help improve student performance (Thapa et al., 2013). In contrast, a negative school climate, with problems like lack of order, unfair treatment, or not enough support, can reduce motivation, cause students to miss school more often, and lower their academic achievement.

School climate is directly associated with students learning motivation. Students perform better academically who experienced positive school climate where their psychological and emotional needs are timely fulfilled and school provide a conducive learning environment. Therefore, both the school climate and motivation are interconnected and has direct association with academic achievement among various cultures (Bear et al., 2011; Konold et al., 2018). As a collectivist society, Thailand's education system emphasis on social cohesion, respect for authority and hierarchical relationships. The student' mostly found to follow and to respect these values resulted in producing order, discipline and enhancing open discussion and communication. Similarly, family involvement in education, pressure of the exams and entrance tests also positively contributed to higher academic achievement among students' (Hofstede, 2001). The national education policy in Thailand also emphasis on producing supportive learning environment, student centered approach, inclusive education, enhancing students independence and enhancing studnets' emotional wellbeing and motivation. This educational reforms help to improve the academic outcomes among students' with the coordinated effect of student motivation and school climate (Ministry of Education Thailand, 2019).

Most of the studies carried out in Thailand exploring students' academic achievement focused on individual effect of student personal and external factors such as classroom size, school environment, teaching method and curriculum content etc (World Bank, 2019). However, there is limited literature available in exploring the both the psychological and external factors, especially using theories like Self-Determination Theory (SDT) and ecological systems theory, which limited the complete picture of what improve or what harm students learning and motivation. This study is an attempt to fill out this gap by examining the effects of both student motivation and school climate on academic achievement in Thai secondary schools.

Theoretical Framework

To guide this study, two important theories are used: Self-Determination Theory (SDT) by Deci and Ryan (1985, 2000), and Bronfenbrenner's Ecological Systems Theory (1979). These theories help explain how both individual motivation and the learning environment affect student achievement in different but connected ways.

Self-Determination Theory (SDT)

SDT explains that motivation depends on meeting three basic psychological needs. Autonomy, the feeling of having control or choice over one's actions. In school, students who feel they can make choices about their learning are more likely to be intrinsically motivated. Competence, the feeling of being capable and successful at tasks. This is supported when students receive positive feedback and face challenging but achievable schoolwork. Relatedness, the feeling of being connected and valued by others. Supportive relationships with teachers and classmates help students feel they belong (Ryan & Deci, 2000).

SDT also separates intrinsic motivation (doing something for enjoyment or interest) from extrinsic motivation (doing something for rewards like grades). Students who are intrinsically motivated often learn more deeply, stay focused longer, and achieve better results (Eccles &

Wigfield, 2020). In Thailand, the education system often focuses on external rewards, such as test scores and class rankings. Using SDT in this context offers a way to move toward teaching that builds true student engagement and motivation.

Ecological Systems Theory

Bronfenbrenner's Ecological Systems Theory highlights how a person's development is shaped by the various layers of their environment. According to this model, individuals grow and behave within several interconnected systems, each influencing their development in different ways. These include, Microsystem, Direct environments such as family, school, and peer groups. Mesosystem, the interactions between microsystems, like how parents and teachers communicate. Exosystem, settings that affect the individual indirectly, such as educational policies or a parent's workplace. Macrosystem, the broader cultural values, traditions, and beliefs of society and Chronosystem, the impact of time-based changes, like moving schools or major life events. In the school microsystem, the school climate is especially important. It strongly affects students' emotional, social, and academic growth. A positive climate where students feel safe, respected, supported, and held to high standards helps build motivation, reduces behavior problems, and supports better academic achievement (Wang & Degol, 2016; Ali et al, 2020).

In Thai schools, where values such as respect for authority, social harmony, and community belonging are deeply rooted, the way students and teachers relate to each other becomes very important. Aspects of school climate like fairness, inclusivity, and teacher-student relationships can have a strong impact on students' attitudes and actions. Studying this helps us understand how to create school environments that better support learning in Thailand.

Integrating SDT and Ecological Systems Theory

Self-Determination Theory (SDT) and Ecological Systems Theory work well together to help us understand what affects student achievement. SDT looks at the internal psychological needs like feeling in control, capable, and connected that help students stay motivated. Ecological Systems Theory focuses on the outside factors, like the school environment, that either support or block those needs. For example, when a school encourages students to express their ideas, offers academic help, and builds respectful relationships between teachers and students, it helps students feel more autonomous, confident, and connected. This leads to stronger intrinsic motivation—students wanting to learn for their own satisfaction.

This combined approach shows that school climate and motivation are closely linked. They work together to influence how well students perform. A positive school environment supports motivation by meeting students' needs, which leads to better learning. But a negative or unsupportive school climate can weaken motivation and hurt academic progress. In Thailand's changing education system, using both theories together is important. It can help create better education policies, teacher training, and school practices that meet students' needs while also supporting national education goals.

This study aimed to assess the levels of student motivation and students perceptions about school climate in selected schools, to explore the relationship between student motivation, school climate and academic achievement and to examine the extent of the interactive impact motivation and school climate on students' academic achievement. These objectives are operationalized through the following research questions:

1. What are the levels of academic achievement, motivation, and school climate among Thai secondary students?
2. Whether student motivation and school climate is associated with academic achievement?

Significance of the Study

This research is important for several reasons. First, it helps fill a gap in existing studies by looking at how both psychological factors (like motivation) and environmental factors (like school climate) affect student performance in Thailand's education system. Second, by using well-known theories, the study provides a strong framework for understanding how academic success happens. Third, the results of this research can help school leaders, teachers, and policymakers. Knowing how motivation and school climate work together to influence learning can guide teacher training, school improvement plans, and national education policies that aim to boost student outcomes. In addition, this study adds to the field of cross-cultural educational psychology by applying Western theories to the Thai context. It helps us understand how cultural values, like respect for authority and group harmony, connect with motivation and school climate, adding new insights to global discussions on fair and effective education.

To sum up, this study suggests that student success in Thai secondary schools depends on the interaction between inner motivation and the external school environment. Using Self-Determination Theory and Ecological Systems Theory, it builds both a theoretical and research-based understanding of how to improve education in Thailand.

II. Methodology

Research Design

A quantitative and cross-sectional survey design was followed to explain how academic achievement is related to student motivation, and school climate. This type of design was chosen because it allows researchers to gather and analyze data from a large number of students at one point in time, making it easier to identify patterns and relationships between the key factors.

Population and Sample

To ensure geographic and cultural diversity the present study adopted stratified random sampling technique and data was collected from 450 public schools secondary school students (Grades 9 to 12 of age group 14 to 18 years) from these three provinces of Thailand, (i) Chiang Mai in the North, (ii) Khon Kaen in the Northeast, and (iii) Nakhon Si Thammarat in the South. From each selected province two public schools were randomly selected and from each school 75 students were selected as study respondents.

Instruments

1. **Academic Achievement**: for measurement of Student achievement, the most commonly measure Grade Point Average (GPA) on a 4.0 scale was used. Information about Students GPA was obtained from school records.
2. **Motivation:** for measurement of student Motivation Academic Motivation Scale (AMS) developed by Vallerand et al. (1992) was adopted. The scale was contextualized and translated into Thai. The scale comprised of 28 items and students responses were measured on a 5-point Likert scale, from 1 (Strongly Disagree) to 5 (Strongly Agree).
3. School Climate: for measurement of school climate, School Climate Survey developed by the National School Climate Center (NSCC, 2010). Key areas of school climate covered by this tool are safety, relationships, instructional environment. The scale comprised of 30 items, and students responses were recorded on a 5-point Likert scale.

Validity and Reliability

To make sure the questionnaires measured what they were supposed to, three Thai education experts in educational psychology and school administration reviewed the content. The tools were also tested with 30 students to check for unclear wording or any cultural misunderstandings. Based on their feedback, the questionnaires were revised and finalized.

Reliability was checked using Cronbach's alpha, and all the scales scored above 0.70, which is considered acceptable. To confirm that the motivation and school climate tools actually measured the right concepts, a factor analysis was done. All the items showed strong results, with factor loadings above 0.60, which supports their construct validity.

Data Collection Procedure

Before starting the study, ethical approval was obtained from the institutional review board of the university. Official permission was also received from the Ministry of Education and the schools involved. All students and their parents or guardians gave informed consent to participate.

The data were collected during normal school hours in the classroom. Trained research assistants gave clear instructions, helped administer the questionnaires, and made sure everything was done in the same way for each class. Students were told that their answers would be private and confidential. The whole process took about 30 minutes per class.

Ethical Considerations.

The study followed important ethical guidelines, including voluntary participation, informed consent, confidentiality, and the right to withdraw at any time. All data were stored safely, and only the research team could access the raw information. To protect privacy, student names were not collected—instead, ID numbers were used to track responses.

Data Analysis

Data were analyzed using IBM SPSS Statistics version 21. First, descriptive statistics (such as mean, standard deviation, minimum, and maximum) were calculated to describe the overall trends and variation in the key variables. The reliability of each questionnaire was checked using Cronbach's alpha. To examine the relationships between academic achievement, motivation, and school climate, the study used Pearson's correlation coefficient. To find out how well motivation and school climate could predict academic achievement, a multiple linear regression was performed. In this analysis, GPA was the dependent variable, and motivation and school climate were the independent variables. The data were tested for key statistical assumptions like normality, linearity, multicollinearity, and homoscedasticity, and all these conditions were satisfied.

III. Results

Descriptive Statistics

Table 1 highlighted Mean, standard deviation, minimum, and maximum values for the three primary variables: Academic Achievement (measured as GPA), Student Motivation, and School Climate. The results indicated that students reported moderately high levels of motivation and positive perceptions of their school climate. The average GPA (M = 3.01) indicates satisfactory academic performance. Standard deviations suggest moderate variation in responses, reflecting diversity in student experiences across different regions and school environments.

Table 1: Descriptive Statistics of Main Variables

Variable	Mean (M)	Standard Deviation (SD)	Minimum	Maximum
Academic Achievement (GPA)	3.01	0.56	1.80	4.00
Student Motivation	3.45	0.51	2.10	4.90
School Climate	3.63	0.49	2.00	4.80

Reliability Analysis

Cronbach's alpha coefficients were calculated to assess the internal consistency of academic motivation scale and school climate scale. Table 2 showed that both instruments show excellent reliability, with alpha values well above the acceptable threshold of .70. This confirms the instruments consistently measure the constructs of motivation and school climate in the Thai secondary school context.

Table 2: Reliability Coefficients

Scale	Cronbach's Alpha (α)
Academic Motivation Scale	.88
School Climate Scale	.85

Correlation Matrix

Pearson correlation coefficients were used to explore the relationships among the three key variables. Table 3 portrayed a strong positive correlation (r = .52**) between motivation and GPA: suggests that students with higher motivation levels tend to achieve better academic results. Moreover, a moderate positive correlation (r = .39**) was found between school climate and GPA indicates that students who perceive their school climate more positively also tend to perform better academically. In addition, a strong positive correlation (r = .48**) between motivation and school climate suggests that a supportive school environment is associated with higher student motivation.

Table 3: Correlation Matrix

Variables	1. GPA	2. Motivation	3. School Climate
1. Academic achievement (GPA)	1.00		
2. Motivation	.52**	1.00	
3. School Climate	.39**	.48**	1.00

Note: $p < .01$

Regression Analysis

Multiple regression was conducted to determine the extent to which student motivation and school climate predict academic achievement. Table 4 highlighted that the regression model is statistically significant *F(3, n–*

4), p < .001), with R² = .46, indicating that motivation, school climate and their interaction explained 46% of the variance in academic achievement (GPA).

Table 4: Model Summary for Predicting Academic Achievement

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	F	p-value
1	0.68	0.46	0.45	0.47	58.32	.000

Regression Coefficients

Results in Table 5 showed that all the predictive variables introduced in the model Motivation, School climate and Interaction of motivation and school climate have statistically significant (P<0.05) impact on students' academic achievement (GPA). The results highlighted that Motivation is the stronger predictor (β = .35, p < .001), confirming that students with higher motivation are more likely to achieve higher GPAs. School climate is also a significant predictor (β = .28, p < .001), though its influence is slightly less than motivation. In addition, interaction of motivation and school climate is the strongest predictor (β = .46, p < .001), confirming that students with higher motivation and experienced positive school climate are more likely to achieve higher academic scores (GPA). The results showed that both predictors contribute uniquely and significantly to academic achievement, reinforcing the importance of internal (psychological) and external (environmental) factors.

Table 5: Regression Coefficients for Predicting Academic Achievement

Predictor	Unstandardized Coefficient (B)	Standard Error (SE B)	Standardized Coefficient (β)	t-value	p-value
Motivation	0.35	0.05	.45	6.40	.000
School Climate	0.29	0.06	.30	4.67	.000
Motivation * School Climate	0.42	0.05	.45	8.40	.000

IV. Discussion

This study shows that student motivation and school climate are very important for Thai secondary students to do well in school. When students are motivated and the school environment is positive, their grades (GPA) are usually better. This means both how students think and feel inside and what their school is like can affect their success. These results agree with other research, which also says that motivation and school climate are big reasons why students do well (Skinner & Pitzer, 2012; Konold et al., 2018). Among the two factors, student motivation was the stronger reason for better school performance. This agrees with Self-Determination Theory (Ryan & Deci, 2000), which says that when students feel in control, capable, and supported by others, they take more interest in learning and do better in their studies. The findings add to existing research showing that intrinsically motivated students—those who learn because they find it interesting or enjoyable—are more likely to stay focused, be creative, and succeed academically (Schunk et al., 2014). Results from the Academic Motivation Scale showed that Thai students who see learning as personally meaningful tend to achieve more, which is consistent with studies from other countries (Gillet et al., 2012).

The study also showed that school climate has a meaningful impact on academic performance. This supports previous research showing that a positive and inclusive school environment helps students feel good emotionally and do better in school (Bear et al., 2011; Wang & Degol, 2016). When schools are safe, respectful, supportive, and have high expectations, students are more likely to succeed. This connection may be especially strong in Thailand, where cultural values like social harmony, respect for teachers, and group belonging are important (Hofstede, 2001). These cultural traits may increase the effect that school climate has on motivation and learning.

Interestingly, the study also found that school climate influences motivation, which then affects achievement. In simple terms, the school environment not only affects students' success directly but also increases their motivation to learn. This fits with the ideas of Eccles and Roeser (2011), who suggest that when schools and teachers are supportive, they can influence how students see their own abilities and how important they think education is. In this study, students who felt their school treated them fairly, offered support, and made them feel emotionally safe were more motivated and that motivation helped them achieve better academic results. This study contributed to important implications for enhancing quality education in Thailand. As the education policies mostly stressed on improving the curriculum and student assessments to meet international standards (OECD, 2020), this findings of this study highlight the most important role of student motivation and school climate in educational outcomes among students. The study concluded that both the internal motivation towards learning and positive school climate are the two most important elements in enhancing academic performance among students, therefore, educational leaders and policy makers must consider these two elements while developing educational policies (Wentzel & Muenks, 2016).

One useful approach is to train teachers in how to use teaching methods that boost student motivation and create inclusive classrooms. Studies show that when teachers give students more choice and support, students become more engaged and eager to teach (Reeve & Cheon, 2021). In Thailand, where classrooms often follow strict teacher-student roles, teachers could benefit from training that encourages student involvement, offers options, and provides helpful feedback while still respecting Thai culture.

To make the school environment better, school leaders can regularly gather students' opinions to understand how they feel and use that feedback to improve things. Activities like peer mentoring, student councils, and restorative justice programs have been shown to help students feel more connected to school and take more interest in learning (Gregory et al., 2010). In Thailand, these programs can be adapted to local culture—such as through group-based learning projects or mindfulness activities—to help create more supportive and welcoming schools.

This study also encourages a new way of thinking about student success. Thai education has traditionally focused mostly on exam results, often ignoring the importance of emotional and social skills. The findings suggest that a more well-rounded approach is needed—one that values students' emotional well-being, their relationships with others, and their sense of purpose at school (Zins et al., 2004)

While these findings are useful, the study has some limitations. Because it used a cross-sectional design meaning the data were collected at one point in time—it cannot prove that motivation and school climate cause better academic outcomes. Future studies should use long-term (longitudinal) designs to see how these factors affect students over time (Pintrich, 2003). Also, the study only looked at students from three provinces, so the results might not reflect the experiences of students in other parts of Thailand. Future research should include students from more regions and backgrounds to make the findings more accurate and widely applicable. Another limitation is that the study relied on students' self-reported answers about their GPA and motivation. Students might not always give completely accurate answers. To make future research more reliable, it could include information from teachers, school records, or direct classroom observations. Researchers could also use interviews or focus groups to get a deeper understanding of how Thai students perceive their school environment and what factors motivates them towards academic behaviour.

Although there are some limitations, this study gives a strong foundation for helping students do better in school by paying attention to both their motivation and the school environment. By using Self-Determination Theory (SDT) along with Ecological Systems Theory, it clearly shows how inner factors (like students' motivation) and outside influences (like the school climate) work together to impact learning. These insights can be helpful not just in Thailand but also in other countries with similar education systems and cultural backgrounds.

In short, the academic success of Thai secondary students depends on both their own motivation and the support they get from their school environment. When schools work on improving both areas, students are more likely to get better grades, feel more involved, and be better prepared for learning throughout their lives

V. Conclusion

This study explored how student motivation and school climate affect academic achievement in Thai secondary schools. Using a quantitative method, the findings showed that both motivation and school climate have a strong connection to how well students do in school. Among the two factors, motivation had a stronger impact, showing that students' inner drive is very important for success. Still, school climate also played a key role by creating a positive and supportive place that helps students stay motivated and involved. Furthermore, the study found that when student inner motivation and school climate work together, their combined effect on academic success is much stronger than the individual effects.

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These results are in line with the Self-Determination Theory and Bronfenbrenner's Ecological Systems Theory, which explain that both personal and environmental factors shape students learning and performance. Therefore, schools should develop such strategies that support students emotionally, provide a good learning environment, and help them do well academically. Additionally, it was concluded that school should focus on building students' motivation through student-centered teaching and creating schools that are safe, supportive, and engaging.

VI. Recommendations

Based on the findings of this study, several recommendations can be proposed to help improve academic performance in Thai secondary schools. First, schools should adopt student-centered teaching methods that contributed to enhancing students' autonomy, competence, and relatedness, which help boost students' intrinsic motivation. Teachers should receive training in motivational strategies and inclusive classroom practices. Second, schools should aim to build a positive school climate by encouraging respectful relationships between teachers and students, ensuring safety, and allowing students to participate in school decision-making. School leaders should also carry out regular assessments of both school climate and student motivation to guide ongoing improvements. Third, education policymakers should include indicators of motivation and school climate in the national framework for evaluating education quality. Finally, future research should use longitudinal and mixed-method designs to better understand cause-and-effect relationships and consider other factors like family background or access to digital learning tools. By addressing both motivational and environmental aspects, educators and policymakers can help build a more effective and fair education system for Thai students.

VII. Limitations

This study has a few important limitations to keep in mind. First, since it used a cross-sectional design, it cannot clearly prove that motivation or school climate directly cause changes in academic performance. It only shows a link between them. Second, the data came from self-reported questionnaires, which means students might have answered in ways they thought looked good or may not have fully understood or accurately reported their own feelings and behaviors. Third, the sample came from only three provinces, which may not fully represent the educational diversity found across Thailand. Lastly, some important factors such as parental involvement, teacher quality, and socioeconomic status were not included in the study. These should be considered in future research to provide a more complete understanding.

Practical Implications

The study shows that Thai schools need to use student-centered teaching and create a positive school climate. Improving teacher training, encouraging active student involvement, and focusing on students' psychological well-being can help raise academic performance. Education reforms should include motivation and school climate as core indicators when measuring how effective schools are.

Practical Implications

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