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Original Article

Study of Classroom Climate, Student Engagement, Self-Efficacy and Learning Experiences: An Analyses Employing Social Cognitive Theory

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Abstract

This study investigated the impact of classroom climate on students' engagement, self-efficacy and learning experience. Using a quantitative research design, the data was collected from diverse participants in public sector colleges in Sindh, Pakistan. The study employed path analysis to test the hypotheses developed based on literature to assess the causal relationship between classroom climate and the selected critical variables. The Social Cognitive Theory was employed to assess the causal relationship. The path analysis revealed that all three hypotheses were supported. The statistical results of the research show the positive impact of a supportive classroom climate on students' engagement, self-efficacy and learning experience. The results of this research align with the theoretical framework based on Bnadura's social cognitive theory, which emphasises the reciprocal impact between social factors and personal development. The findings offer practical implications for teacher policymakers to uplift educational practices. This study identified classroom climate's significant and vital role in harnessing students' engagement, self-efficacy and learning experience. The results offer the foundation for future research.

Keywords: Classroom climate, Learning experience, Self-efficacy, Social cognitive theory, Student engagement, education.

INTRODUCTION

The combination of various interrelated social, psychological, and physical factors that describe the learning ambience constitutes the classroom climate. It should be understood beyond the tangible arrangements of chairs and desks; it also encapsulates the quality of interaction among learners and teachers and the access to learning resources. Classroom climate significantly impacts learners' engagement, psychological well-being, and holistic learning outcomes (Wang, et al., 2020). The congenial classroom climate makes the students feel a sense of belonging and safety. It authenticates the mutual respect of students irrespective of their abilities or background. To establish a good or lousy classroom climate, the teachers have a crucial role in architecting an atmosphere of inclusivity, promoting open interaction, and creating opportunities for collection coordination (Barksdale, et al., 2021).

One key factor in creating a positive classroom climate is offering emotional support. Once the students perceive emotional security, they are more likely to take the initiative and take risks towards their learning, putting forward their ideas and being acrobatic in-class participation (Monteiro, et al., 2021). Students seek to address their emotional and social needs through a supportive classroom climate. The positive classroom climate enables the students to recognise that their psychological well-being is essential to their academic excellence. The tangible arrangement of the classroom, including seating arrangements and presentations, is also integral to the overall classroom climate. A well-crafted and designed learning space can promote the students' engagement and focus. Furthermore, a supportive climate extends beyond classroom walls, influencing student perception of learning and the overall environment (Valero-Valenzuela, et al., 2020).

The deleterious or toxic classroom climate can harm students' perception and impede academic progress. The examples of unfavourable climates, such as discouraging, dismissive attitudes, bullying and ostracism, can cause a toxic environment. The students may exclude themselves from active participation and disengage from the learning process once they feel they are not valued and supported. A continuous process requires well-thought-out strategies from students and teachers to grapple with the challenges of creating a supportive classroom climate. The overall learning journey heavily depends on a positive and supportive classroom climate. As this research endeavour is intended to conduct a comparative analysis of classroom climate between male and female students, the study aims to unfold the complex aspects that influence the students' learning experiences.

Objectives of the Study

This research objectives of this study are:

- The impact of classroom climate on students' engagement
- The impact of classroom climate on students' self-efficacy

- The impact of classroom climate on students' learning experience

LITERATURE REVIEW

According to Bandura (1986), the Social Cognitive Theory emphasises the environment's significant role in shaping learning behaviour. In the classroom, a supportive environment can pave the way to encourage the students to observe and learn from their peers and teachers. Applying social cognitive theory in a classroom setting to establish a supportive and positive classroom climate may yield constructive results (Fuente, et al., 2023). The theory may significantly support creating a classroom climate and student engagement (Ma & Wei, 2022). The fundamental factor of classroom climate is the teachers' behaviour, attitude and academic excellence that the student observes, and they try to intimate his/her actions (Karasova & Nehyba, 2023; Ratcliff et al., 2017). Supportive teachers' behaviour, such as a passion for delivering the course contents, appreciation for students' initiatives, and motivation of the students, can trigger a well-rounded, engaged classroom climate (Guo et al., 2023). Classroom environment, technology facilities and positive teacher support can significantly and positively influence student engagement. Besides, student engagement can also mediate the relationship of several variables relevant to the classroom climate (Hanaysha, et al., 2023). All these studies authenticate the significant impact of classroom climate on student engagement; therefore, the following hypothesis has been formulated for this study:

- H1: Classroom climate has a significant impact on students' engagement

The social cognitive theory emphasises the significance of creating an environment that promotes self-efficacy, a belief in one's ability to excel. Self-efficacy or self-confidence among the students can be promoted by creating a supportive and positive classroom climate. Students who perceive that the classroom climate supports them have been documented with enhanced self-efficacy (Vidić, 2021). Using Social Cognitive Theory, Zysberg and Schwabsky (2020) studied the impact of classroom climate on students' self-efficacy and found that two out of three dimensions of classroom climate significantly impact student self-efficacy. Using students' self-efficacy and learning engagement, the research revealed that intrinsic motivation significantly affects students' self-efficacy (Wu, et al., 2020). The study, however, did not emphasise the factors relevant to the classroom climate which cause the motivation level among students. Using Structural Equation Modeling (SEM), the research concluded that the positive classroom climate influences statistically significant student self-efficacy.

Additionally, self-efficacy also has a significant positive impact on student engagement (Vidić, 2021). The concept of self-efficacy is specifically relevant to Social Cognitive theory, as the theory proposes that a person's belief in his/her individualistic capability often triggers a higher-order motivation for academic excellence (Bandura, 1977). Educators can increase the students' self-efficacy by creating challenging tasks with the required support and encouragement for positive feedback. Social Cognitive Theory, therefore, suggests creating a supportive classroom climate to create challenging tasks, offer appropriate support, and encourage the students so that a sense of self-efficacy may emerge among them. This study has, therefore, formulated the following hypothesis:

- H2: Classroom climate has a significant impact on students' self-efficacy

Bandura's (1986) Social Cognitive Theory has been studied to investigate its impact on the classroom environment, which causes significant changes in students' learning experience. Teachers can apply the Social Cognitive theory in the classroom by creating opportunities for students to observe and mimic behaviours, which supports a positive learning experience. A supportive classroom climate and ideal social interaction can enhance students' well-being and create a positive learning experience (Qiu, 2022). Using a qualitative approach to investigate the students' learning experience by creating a Computer Support Collaborative Learning Environment (Perales, 2022), it was found that such an environment can enhance the students' learning experience. Collaborative initiatives, support for each other, and group projects can enhance the social learning experience among students (Zhang, et al., 2023). A supportive learning environment offers an opportunity to learn from each other's learning experiences. Such a supportive learning environment results from a supportive classroom climate (Hammar Chiriac, 2014). These collective and collaborative factors can create a supportive classroom climate that enhances

the students' motivation level, self-regulation and holistic academic experience (Forslund Frykedal & Hammar Chiriac, 2017). The critical component of Social Cognitive Theory is a reciprocal mechanism, which emphasises the vibrant, collaborative interplay among individualistic factors, behaviours and environmental influences. This interaction can be understood in the classroom as a learning environment, student-teacher relations, and individual peculiarities of students and shapes the overall classroom climate. The deliberate efforts of educators make it possible to design activities, support collaborative learning, and develop a positive, well-rounded atmosphere to increase reciprocal determinism that encourages a positive learning experience (Olivier et al., 2023). These literary evidences can be used as the foundation to formulate the following hypothesis

- H3: Classroom climate has a significant impact on students' learning experience

METHODOLOGY

Using a quantitative research approach, this study aims to assess the impact of classroom climate on students' engagement, self-efficacy and learning experience. These dynamics are expected to provide valuable insights into effective educational practices. This study has included students from various public sector colleges of Sindh at different levels of standards, intending to ensure diverse representation across demographics. A random sampling technique has been used to ensure the external validity. Classroom climate has been studied as an independent variable, whereas students' engagement, self-efficacy and learning experience are dependent variables.

Data was collected using a closed-ended questionnaire based on a five-point Likert scale. The validated data collection instrument has been adapted to assess classroom climate, student engagement and self-efficacy. Around 550 questionnaires were distributed among the randomly selected students as the population frame was by the College Education Department Govt. of Sindh. Questionnaires were returned duly filled, and the number that remained for analysis after screening was 360. The collected data was screened to eliminate unengaged items, missing Responses, and incomplete questionnaires. The correlation and regression analysis as statistical tools were applied to investigate the relationship among variables of interest.

RESULTS & FINDINGS

Table1 shows that 170 respondents were intermediate-level 11th and 12th-grade students, constituting 47.2 per cent of the total respondents. Meanwhile, 52.8 per cent, i.e., 190 out of 360 respondents, werestudents enrolled in undergraduate programs at various government-owned colleges. The statistics are also depicted in Graph. Table No. 1 further shows that 66.4 per cent of the total sample were male respondents, constituting 239 students as respondents to this study. In contrast, 121 female respondents participated in the research, constituting 33.6 per cent of the total sample.

Table 1
Demographic Profile

Variables		Frequency	Percentage
Class	Intermediate	170	47.2
	Undergraduate	190	52.8
Gender	Male	239	66.4
	Female	121	33.6

Reliability Statistics

In order to measure the internal consistency among items for each construct of the research, the reliability test was performed, and the results are shown in Table No. 2 below. The table indicates that Cronbach's alpha statistics for classroom climate, student engagement, self-efficacy, and learning experience are 0.77, 0.85, 0.70, and 0.974,, respectively. The results confirm that internal consistency is established regarding the items measuring the relevant construct of the student.

Table 2
Reliability Statistics

Variables	items	Cronbach's Alpha
Classroom Climate	5	0.770
Student Engagement	6	0.853
Self-Efficacy	5	0.700
Learning Experience	8	0.974

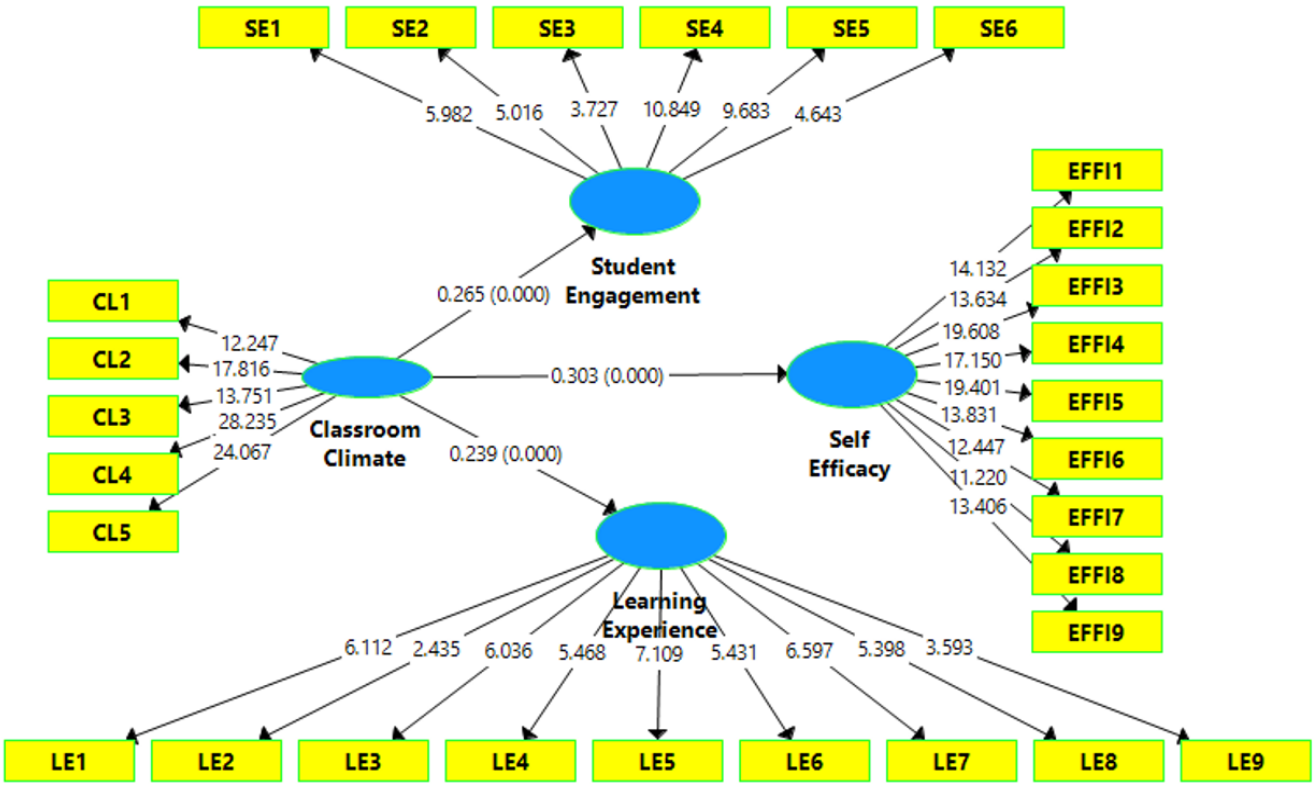
The higher Cronbach's Alpha coefficients given in the table show the appropriate internal consistency, ensuring confidence in the reliability of items for these constructs (Cronbach, 1951).

Table 3
Path Analysis

Path Coefficient	Original Sample (O)	Sample Mean (M)	STDEV	T Statisctics	P Values
Classoom Climate > Student Engagement	0.265	0.282	0.041	6.488	0.000
Classoom Climate > Self-Efficacy	0.303	0.311	0.047	6.463	0.000
Classoom Climate > Learning Experience	0.239	0.263	0.061	3.945	0.000

Table 3 above indicates that the path coefficient for classroom climate and student engagement is 0.265 (t = 6.488, p-value = 0.000) authenticates the statistically significant impact of classroom climate on student engagement for this study. Hence, the hypotheses formulated for this research regarding the significant positive impact of classroom climate on student engagement are supported. Furthermore, the path coefficient favouring classroom climate and self-efficacy is shown in Table 0.303 (t = 6.436, p-value = 0.000), indicating a statistically significant impact of classroom climate on student self-efficacy. Therefore, the hypothesis of the significant positive impact of classroom climate on students' self-efficacy is supported. Table 3 above shows that the path coefficient is 0.239 (t = 3.945, p-value = 0.000) for classroom climate being a significant positive predictor of the learning experience. The results of this research confirm that there is a positive significant impact of classroom climate on students' learning experience.

All the formulated hypotheses are supported based on the given research outcomes for this study. The positive t-statistics with low p values show the significant positive impact of classroom climate on student engagement, self-efficacy and students' learning experience.



Discussion

The results of this research offer evidence confirming the positive and significant impact of classroom climate on students' engagement, self-efficacy and holistic learning experience. The positive impact is revealed through the path analysis using smart please. The study indicates that the congenial classroom climate has a significant and pivotal role in improving the critical aspects of students' experiences. The statistically significant positive influence of classroom climate on student engagement suggests that a supportive and positive learning environment promotes the acrobatic participation and interest of the students towards learning. This study's findings align with previous research outcomes focusing on the role of a supportive classroom climate in enhancing student engagement (Smith & Johnson, 2020).

Furthermore, the statistically significant positive relationship between classroom climate, self-efficacy and learning experience emphasises the comprehensive implications for students' academic success and excellence. A supportive, positive classroom climate seems to enhance the students' confidence in their capabilities and abilities (Self-efficacy) and promotes the holistic quality of learning experiences. These results are in congruence with the findings provided by Bandura's Social Cognitive Theory (Bandura, 1977). The findings of this research contain applicable implications for teachers and policymakers. By putting a positive and supportive classroom climate at the top of the priority scale, the colleges can potentially establish and maintain an environment that facilitates learning and enhances students' confidence and motivation for their academic pursuits.

CONCLUSION

In this research, using Social Cognitive Theory, an empirical approach was employed to understand the dynamics of classroom climate, student engagement, self-efficacy and learning experiences. Conducting path analysis, the formulated hypotheses were tested, which provided robust evidence supporting all three hypotheses, confirming the significant causal relationship between variables of interest in an educational context. Initially, the findings highlighted the critical role of classroom climate in determining students' learning experiences and engagement levels. A supportive and positive classroom environment, indicated by collaboration, mutual respect and well-rounded interaction, was related to higher-order levels of student engagement and self-efficacy. These results supported the tenets of Social Cognitive Theory, which emphasised the significance of environmental determinants in shaping an individual's motivation, belief and attitudes.

Later, this research identified a strong association between student engagement and self-efficacy, exhibiting the reciprocal association between the selected constructs of this study. The student who actively and with tremendous enthusiasm towards the learning activities showed his/her level of engagement. The research results highlighted the impact of students' active participation in learning, believing their abilities to excel, as posted by Social Cognitive Theory. Finally, the analysis explained the positive significant influence of student engagement and self-efficacy on learning experiences. The engaged students demonstrated active participation in the learning process, demonstrated confidence in their capabilities, and exhibited more meaningful learning experiences. The results support that learners' perception of their efficacy and engagement level is pivotal in determining their holistic learning outcomes and contentment with the educational process. This research contributes essential understanding to the existing knowledge on classroom climate and students' learning experiences in educational settings. The research can explain the complex interplay between classroom climate, self-efficacy, student engagement, and learning experiences by applying Social Cognitive Theory.

Limitations

Even though this research offers valuable insights, it also has certain limitations that may affect the generalisability and scope of the results. This research has emphasised public sector colleges of Sindh only. Therefore, the findings of this study may not be generalisable to privately managed colleges in Sindh. The data collection reliance was on self-report, which may, to some extent, cause the response biases or subjectivity. The survey for this research is cross-sectional. Future studies can be conducted longitudinal, which may provide more inclusive and robust results. The respondents may have recorded

their responses in a socially desirable manner, potentially impacting the accuracy of self-reported data. Despite these limitations, the findings of this research contribute valuable insights to the existing body of knowledge relevant to the classroom climate, student engagement, self-efficacy and learning experience. This study offers a foundation for further study in educational psychology.

Recommendations

Based on the findings of this study, the following recommendations are emerging for the teachers and the colleges:

Supportive and Positive Classroom Climate:

- Support teachers to enhance a supportive and positive atmosphere that promotes a sense of belongingness and student engagement.
- Continuous professional development for teachers:
- Create professional development avenues for teachers to improve their skills in establishing and maintaining a supportive classroom climate.

Supportive System for Students:

- Develop a supportive system to address students' learning needs concerning enhancing self-efficacy and engagement.

Ongoing Evaluation and Assessment:

- Formulate, implement and evaluate an effective monitoring and evaluation system to single out the areas for upgrading and ensure a sustained supportive influence on students' learning experience.

Competing Interest

The authors had no competing interests.

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