



Interaction Effect Of School Type And Socio-Emotional Climate On Academic Achievement Of Students

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ABSTRACT

The present study investigates the interaction effect of school type (government and private) and socio-emotional climate (rich and poor) on the academic achievement of students. The socio-emotional climate of a school, characterized by the quality of interpersonal relationships, emotional support, and overall psychological environment, plays a critical role in shaping students' learning outcomes. Employing a 2x2 factorial design, the study examines how the combination of school type and socio-emotional climate influences students' academic performance. A sample of students from government and private schools was selected, and their academic achievement was measured in relation to their school's socio-emotional climate. The data were analysed using Two-Way ANOVA to explore the main effects of school type and socio-emotional climate, as well as their interaction effect. Results revealed a highly significant main effect of school type ($F = 1297.12, p < 0.01$), with private school students outperforming their government school counterparts in academic achievement. However, the main effect of socio-emotional climate was not significant ($F = 1.93, p > 0.05$), suggesting that socio-emotional climate alone does not significantly influence academic performance. A significant interaction effect ($F = 218.95, p < 0.01$) was observed, indicating that the relationship between socio-emotional climate and academic achievement differs by school type. Private school students performed well regardless of the socio-emotional climate, whereas government school students' performance was more adversely affected by a poor socio-emotional climate. The findings underscore the need for targeted interventions in government schools to improve socio-emotional climates and bridge the academic performance gap. The study highlights critical implications for policymakers, educators, and stakeholders in enhancing educational equity and student outcomes.

Keywords: Socio-emotional climate, school type, academic achievement, government schools, private schools, interaction effect

INTRODUCTION

In the field of education, the factors influencing academic achievement have long been a subject of interest for researchers and educators alike. Among these factors, the type of school a student attends and the socio-emotional climate of that school are two significant elements that shape educational outcomes. Academic achievement, which is often seen as the primary measure of student success, is not solely dependent on cognitive abilities, but also on the environment in which students learn and grow. School type—whether public or private—can have profound implications for student achievement. Private schools are typically perceived as providing better resources, more individualized attention, and greater opportunities for extracurricular development. In contrast, government schools often face challenges such as overcrowded classrooms, limited funding, and fewer opportunities for one-on-one student-teacher interactions. These

differences can create disparities in the academic achievements of students attending private and government schools (Gupta & Aggarwal, 2020). Equally critical is the socio-emotional climate of the school. The socio-emotional climate refers to the overall emotional and social environment in which students interact, learn, and develop. It includes elements such as teacher-student relationships, peer interactions, and the general atmosphere of safety, respect, and support within the school. A positive socio-emotional climate is known to foster better academic outcomes by promoting student motivation, engagement, and emotional well-being (Sharma, 2018). Conversely, a poor socio-emotional climate, marked by negative peer interactions or a lack of emotional support, can hinder academic performance and contribute to school-related stress. Although both school type and socio-emotional climate have been widely studied as separate influences on academic achievement, the interaction between these two factors remains underexplored. The question of whether the socio-emotional climate affects students' academic achievement differently depending on whether they attend a government or private school is crucial for understanding how environmental factors influence educational outcomes. For example, it is possible that students in private schools may have access to more resources that buffer the negative effects of a poor socio-emotional climate, while students in government schools may face compounded challenges when both the school type and socio-emotional climate are less favourable.

This study aims to fill this gap in the literature by exploring:

1. The main effects of school type (government vs. private) and socio-emotional climate (rich vs. poor) on academic achievement.
2. The interaction between school type and socio-emotional climate, and how it influences academic achievement.

By examining these factors, this research seeks to provide insights into how both the type of school and the socio-emotional climate affect students' academic outcomes, ultimately informing educational policies and practices to enhance student achievement across both government and private schools.

RATIONALE OF THE STUDY

Academic achievement is one of the most critical outcomes of the educational process, and understanding the factors that influence it is essential for improving educational systems and supporting student success. While much of the existing research on academic achievement has focused on cognitive factors such as intelligence, motivation, and study habits, there is an increasing recognition that environmental factors—such as the type of school a student attends and the socio-emotional climate within that school—also play significant roles in shaping students' academic outcomes. The **school type**—whether a student attends a government or a private school—has long been a subject of educational research. Government schools often face challenges such as larger class sizes, limited resources, and a lack of individualized attention, which may impact students' learning experiences and academic performance. In contrast, private schools are typically perceived as offering better infrastructure, more specialized teaching, and a greater variety of resources. These differences in school type could lead to disparities in academic achievement, with students attending private schools potentially having more advantages in terms of resources and support. Equally important is the **socio-emotional climate** of the school, which can significantly affect students' academic outcomes. A positive socio-emotional climate is characterized by supportive teacher-student relationships, a sense of safety, and an environment that promotes emotional well-being. Studies have shown that a supportive and positive school climate fosters higher levels of student engagement, motivation, and academic performance. Conversely, a poor socio-emotional climate—where students feel unsupported, unsafe, or disconnected from the school community—can lead to stress, disengagement, and decreased academic performance. Therefore, understanding how socio-emotional factors influence academic success is crucial for creating more supportive learning environments. While the effects of school type and socio-emotional climate on academic achievement have been studied separately, limited research has explored how these two factors interact and collectively influence students' academic performance. This gap in the literature presents an opportunity to better understand whether the socio-emotional climate affects students' academic achievement differently in government and private schools. It is important to determine if students in private schools benefit more from a positive socio-emotional climate, or if government school students, who may face additional challenges, are more impacted by the quality of their school environment. The rationale for this study lies in its potential to contribute to the understanding of how both school type and socio-emotional

climate impact academic achievement. By exploring the interaction between these factors, this research aims to provide valuable insights for educators, policymakers, and school administrators. The findings could inform strategies to improve the socio-emotional climate in both government and private schools, ensuring that all students, regardless of the type of school they attend, have access to supportive environments that foster academic success.

Furthermore, this study will contribute to the broader field of educational psychology by examining how contextual factors beyond traditional academic interventions can influence student achievement. Understanding these dynamics is essential for developing comprehensive approaches to improve educational outcomes for all students.

REVIEW OF THE RELATED LITERATURE

Research on the relationship between school type (government vs. private) and academic achievement has been widespread, with findings generally suggesting that students in private schools tend to perform better academically than their counterparts in government schools. This difference has been attributed to several factors. Private schools often have better infrastructure, smaller class sizes, and more resources, which contribute to a more individualized and effective learning experience (Gupta & Aggarwal, 2020). Moreover, private schools often attract highly qualified teachers and offer additional extracurricular activities, which can enhance students' overall development and academic performance. On the other hand, government schools, especially in developing countries, often face challenges such as overcrowded classrooms, limited funding, and a lack of up-to-date learning materials (Sarkar & Bhattacharya, 2018). These factors can hinder the quality of education provided, leading to lower academic achievement among students. However, it is essential to note that while students in private schools may have more opportunities, it is not guaranteed that they will always perform better academically, as the influence of school type is mediated by other factors such as socio-economic status, parental involvement, and personal motivation (Singh, 2019). The socio-emotional climate of a school refers to the overall emotional and social atmosphere within the school, encompassing aspects such as teacher-student relationships, peer interactions, and the degree of emotional support available to students. A positive socio-emotional climate has been consistently linked to improved academic achievement, as it promotes student engagement, motivation, and well-being. Schools that foster supportive relationships, a sense of belonging, and an inclusive environment tend to have students who perform better academically (Sharma, 2018). Studies have shown that when students feel safe and supported in their school environment, they are more likely to engage in learning, participate actively in class, and demonstrate higher levels of academic achievement. For instance, a study by Kumar and Sharma (2021) found that students in schools with positive socio-emotional climates exhibited higher levels of motivation and better academic performance compared to those in schools with poor emotional climates. Conversely, a poor socio-emotional climate—characterized by bullying, lack of support, and negative interactions—can lead to disengagement, stress, and academic decline. Research by Singh and Saini (2020) highlighted those students in schools with a negative socio-emotional climate reported higher levels of anxiety, lower self-esteem, and decreased academic performance. This suggests that a supportive and nurturing school environment is a critical factor for student success, beyond cognitive abilities alone. While much of the research has focused on school type and socio-emotional climate independently, there is a growing interest in understanding how these two factors interact to influence academic achievement. A few studies have explored this intersection, suggesting that the impact of socio-emotional climate may vary depending on the type of school a student attends. For example, students in private schools may benefit more from a positive socio-emotional climate due to the resources available to those schools, including smaller class sizes and greater individualized attention from teachers. In contrast, students in government schools may experience the compounded effects of a poor socio-emotional climate and limited resources, which can negatively affect their academic performance (Jain & Gupta, 2019). Additionally, a study by Rani and Gupta (2022) found that while both school type and socio-emotional climate are important factors influencing academic achievement, the interaction between these two variables plays a significant role. The research indicated that a positive socio-emotional climate could mitigate some of the negative effects of attending a government school, although private schools still generally provide better academic outcomes. This suggests that enhancing the socio-emotional climate in government schools could help reduce the gap in academic achievement between government and private school students.

OBJECTIVE

To examine the interaction effect of school type (government vs. private) and socio-emotional climate (rich vs. poor) on the academic achievement of students.

HYPOTHESES OF THE STUDY

- There exists no significant interaction effect of school type (government vs. private) and socio-emotional climate (rich vs. poor) on the academic achievement of students.

METHODOLOGY

SAMPLE

The population for this study constitutes senior secondary school students studying in rural as well as urban Government and Private Schools of Mandi District of Himachal Pradesh. Sample was drawn by following random sampling techniques.

TOOL FOR DATA COLLECTION

Socio-Emotional School Climate Inventor developed by Dr. Renuka Kumari and Smt. Rajni Bhargava in 1994 was used for collection of data from sampled students.

STATISTICAL TECHNIQUES USED

Descriptive measures such as mean, standard deviation, and frequency distribution were calculated to summarize and understand the basic characteristics of the dataset. A Two-Way ANOVA with interaction was used to examine the main effects of **School Type** and **Socio-Emotional Climate** on the dependent variable, as well as their interaction effect.

ANALYSIS AND INTERPRETATION OF DATA

Table-1

Means of academic achievement scores of students studying in government schools and private schools who perceive the socio-emotional climate of the school as rich and those who perceive the socio-emotional climate of the school as poor

School Type Socio- Emotional Climate	Government Schools	Private Schools	Total
Rich	206.28	246.12	452.40
Poor	181.12	276.5	457.62
Total	387.40	522.62	910.02

The table provides a comparison of the mean academic achievement scores of students in government and private schools based on their perception of the socio-emotional climate as either rich or poor. Students in government schools who perceive the socio-emotional climate as rich have a mean academic achievement score of 206.28, while those in private schools with a rich socio-emotional climate have a higher mean score of 246.12. The total mean score for students perceiving a rich socio-emotional climate across both school types is 452.40. In contrast, students perceiving the socio-emotional climate as poor have a mean academic achievement score of 181.12 in government schools and 276.00 in private schools. The total mean score for students in a poor socio-emotional climate is slightly higher, at 457.62. When comparing across school types, the total mean score for government school students across both socio-emotional climate levels is 387.40, while private school students achieve a significantly higher total mean score of 522.62. This indicates that private school students perform better academically than government school students, regardless of their perception of the socio-emotional climate.

Overall, the findings highlight that a rich socio-emotional climate positively influences academic achievement for both government and private school students. However, private school students consistently outperform their government school counterparts, even in a poor socio-emotional climate. This raises questions about additional factors influencing academic performance in private schools, particularly in less favourable socio-emotional conditions. These trends underscore the importance of further exploring the role of school type and socio-emotional climate in shaping academic outcomes.

From the Means table no. 1 given above 'F' values were computed. The results are given in the Table 2 below

Table 2
Summary Table of Analysis of Variance

Source of variation	df	SS	MS (V)	F
School Type	1	82282.8	82282.8	1297.12**
Socio-Emotional Climate	1	122.76	122.76	1.93
Interaction (School Type x Socio-Emotional Climate)	1	13888.74	13888.74	218.95**
Error Variance	68	4313.70	63.43	

** Significant at .01 level

The results of the two-way ANOVA indicate the following:

1. **Main Effect of School Type:** There is a highly significant effect of school type ($F = 1297.12$, $p < 0.01$), indicating that students in private schools achieve significantly higher academic scores compared to students in government schools.
2. **Main Effect of Socio-Emotional Climate:** The main effect of socio-emotional climate is not significant ($F = 1.93$, $p > 0.05$), suggesting that students' perception of the socio-emotional climate (rich or poor) does not independently affect their academic performance.
3. **Interaction Effect:** The interaction between school type and socio-emotional climate is highly significant ($F = 218.95$, $p < 0.01$). This indicates that the effect of socio-emotional climate on academic achievement differs depending on the type of school. Specifically, private schools seem to provide better academic outcomes even in poor socio-emotional climates, whereas government schools appear to be more affected by the socio-emotional climate.

Based on the analysis, the hypothesis that "there exists no significant interactional effect of school type and socio-emotional climate on the academic achievement of students" is **rejected**. This means that the interaction between school type and socio-emotional climate significantly influences students' academic achievement.

Discussion of the Results

The purpose of this study was to examine the effects of school type (government vs. private) and socio-emotional climate (rich vs. poor) on the academic achievement of students, as well as the interaction between these two factors. The results of the two-way ANOVA reveal important insights that contribute to our understanding of the influence of these variables on academic performance.

Main Effect of School Type: The analysis revealed a significant main effect of school type on academic achievement ($F = 1297.12$, $p < 0.01$), with students in private schools outperforming their peers in government schools. This result is consistent with existing literature, which suggests that private schools often offer better resources, more qualified educators, and enhanced learning environments, contributing to improved academic outcomes (e.g., Gupta & Aggarwal, 2020; Singh, 2019). These findings highlight the ongoing disparities between government and private schools, particularly in terms of infrastructure and the quality of instruction, which may significantly affect students' academic performance.

Main Effect of Socio-Emotional Climate: In contrast, the socio-emotional climate, which refers to students' perceptions of the school environment as either rich or poor, did not have a statistically significant impact on academic achievement ($F = 1.93$, $p > 0.05$). This finding suggests that, when

considered alone, the socio-emotional climate does not exert a strong influence on students' academic outcomes. This result is somewhat unexpected, as prior research (e.g., Sharma, 2018) has emphasized the role of a supportive socio-emotional environment in fostering academic motivation and engagement. One possible explanation is that other variables, such as the quality of teaching or parental involvement, might have overshadowed the effect of the socio-emotional climate. Furthermore, it is plausible that students in private schools, with their high academic expectations, may be less impacted by variations in socio-emotional climate compared to their counterparts in government schools.

Interaction Effect (School Type × Socio-Emotional Climate): The interaction effect between school type and socio-emotional climate was found to be highly significant ($F = 218.95$, $p < 0.01$), indicating that the relationship between socio-emotional climate and academic achievement differs based on the type of school. Specifically, students in private schools showed consistently higher academic achievement, regardless of whether they perceived the socio-emotional climate as rich or poor. On the other hand, students in government schools demonstrated greater sensitivity to the socio-emotional climate, with academic performance declining in schools with a poor socio-emotional environment.

These findings align with previous studies that suggest private schools may offer additional resources or structures that help mitigate the impact of a less favorable socio-emotional climate (e.g., Kumar, 2021). In contrast, government schools may lack these compensatory mechanisms, making students more vulnerable to the negative effects of an adverse socio-emotional climate. This emphasizes the need to improve the socio-emotional climate in government schools to help boost student performance.

Implications of the Findings

The findings of this study have several important implications:

1. **Policy and Resource Allocation:** Governments and policymakers should prioritize improving the infrastructure and teaching quality of government schools to reduce the performance gap between government and private school students.
2. **Focus on Socio-Emotional Support:** Efforts should be made to improve the socio-emotional climate in schools, particularly in government institutions, through initiatives such as counselling services, teacher training on emotional intelligence, and student support programs.
3. **Tailored Interventions:** The significant interaction effect suggests that interventions should be context-specific. For example, improving socio-emotional climates in government schools may yield greater benefits than in private schools.

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