

Research Paper

## Correlates of Classroom Climate on Academic Performance of Middle School Students

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### ABSTRACT

The present study was aimed to examine the correlates of classroom climate on academic performance of middle school students in Vidisha district of Bhopal. The correlational design was utilized involving a sample size of 173 (108 male and 65 female). The subjects were required to respond to a survey instrument which incorporated items on demographic information, classroom climate and performance satisfaction. The major objective of this study was aimed to examine the effect of gender on classroom climate and academic performance. Mean differences across gender on outcome measures were examined by conducted t test. Content analysis was performed to understand the domains of performance satisfaction. The major results of the study indicate that females perceived the classroom climate as significantly more positive on components related to student-teacher interaction and teacher's orientation towards learning. Furthermore, peer relations have an important role to play in enhancing academic performance of female students relative to male students. Finally, strong relationship between student's classroom attendance and academic performance is observed. Implications of the study are discussed.

**Keywords:** Classroom Climate, Academic Performance, Performance Satisfaction, Gender, Physical Environment

Classroom climate is a perceived quality of the setting. It emerges in a somewhat fluid state from the complex transaction of many immediate environmental factors (e.g., physical, material, organisational, operational, and social variables). Both the climate of the classroom and the school reflect the influence of a school's culture, which is a stable quality emerging from underlying, institutionalised values and belief systems, norms, ideologies, rituals, and traditions. In other words, the classroom climate is a reflection of students' opinions of their academic experience (Reid & Radhakrishnan, 2003). Evidence regarding perceived climate of institution and the student-teacher interaction in the classroom setting has a direct impact on students learning and performance. (Julie Driver, 2014).

Peer relationships are some of the principal determinants of this concept since the quality of them have been linked to decreased aggression and victimization (Spangler-Avant, Gazelle,

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& Faldowski, 2011; Wan & Degol, 2016). In this sense, when the students experience warm, kind, and helpful relationships with their peers, they tend to feel more optimistic, show a greater belongingness to their school, and experience a higher satisfaction with life (Wan & Degol, 2016; Çengel & Türkoğlu, 2016). Rubie-Davies (2015) demonstrated that when the students rotate seats across the classroom, they create new relationships with their classmates and will be likely to form new types of friendships (Rubie-Davies et al., 2016).

Teachers play multiple roles in the classroom. They are not only involved in the construction of classroom climate, they also do play an important role in facilitating high academic performance in students (Rubie-Davies et al., 2016; Wubbels & Brekelmans, 1998).

They are especially relevant in creating emotional and social support for all students, which include forming good relationships with the students and encouraging positive relationships among the students themselves (Pianta & Hamre, 2009; Bozkurt & Ozden, 2010; Pianta, Hamre, & Allen, 2012). Teachers' emotional support includes teachers showing respect and warmth for students. expressing personal care, empathy, and positivity through humour, altruism, and affinity (Kaufman, Sellnow, & Frisby, 2016), and additionally, focusing on safety, encouragement and acceptance (Roeser, Eccles, & Sameroff, 2000; Hughes, 2002; Rubie-Davies et al., 2016; Hughes & Coplan, 2017). When the students experience positive and warm relationships with their teachers, they will be more likely to respect the rules of their classroom (Rubie-Davies et al., 2016; Wan & Degol, 2016) and become more motivated and engaged with a learning-oriented environment (Kaufman et al., 2016).

Another important role of classroom teachers is the effective tutoring or management of lessons, student behaviour and instructional support. This involves expanding students' thinking, reasoning and problem-solving skills (Pianta & Hamre, 2009; Pianta et al., 2012). Teachers' roles and the quality of the pedagogical classroom interaction have received increased attention in educational research. Particularly relevant is teachers' instruction and feedback for student learning (Allen, Gregory, Mikami, Kun, Hmare, & Pianta, 2013; Muijs & Reynolds, 2007; Wubbels, Brekelmans, den Brok, Wijsman, Mainhart, & van Tartwijk, 2015). This includes classroom organisation and instructional support (Allen et al., 2013). Teachers' classroom organisation, or monitoring, refers to setting clear behavioural expectations, redirecting minor misbehaviour, and using positive strategies concerning school work, learning, relationships, and behaviour (Emmer & Stough, 2001).

Wan and Degol (2016) identify the relevance of the physical environment for the students' lives and their experience at the school. Availability of resources is related to both the technological and physical resources of the school (Oakes & Saunders 2002; Wan & Degol, 2016). Both dimensions are relevant since they represent appropriate learning conditions for the students and working conditions for the teachers, influencing their satisfaction, engagement, and effectiveness, as well as their academic achievement (Wan & Degol, 2016).

The present study was conducted in one of the large private sector higher secondary co-ed schools in Vidisha district of Bhopal. With the student strength or around 3200 the school is considered as one of the most prestigious school of the city. The school caters the educational need of students since 2009 and is continuously making efforts in providing quality education. Within this backdrop this study was planned to assess the correlates of classroom climate on academic performance of middle school students and to understand the effect of gender on perceived classroom climate and performance satisfaction.

## **METHOD**

### ***Sample***

A total of 173 participants were randomly selected from the class eighth. Attempt was made to include all five sections of the class. A correlational design was utilized to understand the effect of classroom climate on perceived academic performance across gender.

### ***Instruments***

The survey instrument used in this study comprises four sections. In the first section demographic and personal information about the participants were obtained with recent examination performance percentage and attendance percentage. In the second section items related to physical environment, teacher- student interaction, peer relationships and teacher's orientation towards learning were incorporated. The third section deals with items related to performance satisfaction. Lastly, the fourth section incorporated open- ended items related to performance satisfaction.

### ***Demographic Information***

Eight items were included to understand the demographic information and the basic academic information about the respondents. The items included age, class, gender, number of students, number of boys, and number of girls in class he/she is studying. Last two items were about the percentage of attendance and academic performance of the respondent in the recent examination.

### ***Assessment of classroom climate-***

Classroom Climate Scale constructed by Lopez, Torres-Vallejos, Aacorra, & Parada (2018) was used with minor changes. The Classroom Climate scale consists of 21 items and assesses four main components of classroom climate that are physical environment, teacher-student interaction, peer relation and teacher's orientation towards learning. The respondents were required to record their response on various items incorporated in the scales on five-point Likert type format where a response of 5 would mean that the statement under consideration is highly agreeable and a response of 1 would mean that the subject strongly disagrees with the statement under consideration. In addition, two more items on a five-point scale and four open ended questions regarding the performance satisfaction were added to assess the respondents understanding of performance satisfaction in the last two sections.

### ***Procedure***

A formal consent from the director and principal of the school was taken. The survey instruments were distributed on an individual basis. The exact purpose of the study was articulated to the respondents and rapport was established with the respondents. The respondents were encouraged to clarify doubts if any before responding to any of the items. They were also assured that their responses will be kept confidential and will be used for academic purpose only and that their responses cannot be tracked back to them. Respondents were then asked to read the instructions carefully and were told that there was nothing like a right or wrong answer to any of the questions. Instructions for each section of the questionnaire were given before the beginning of each section. General instructions were also given on the first page of the questionnaire to enable the respondents to understand the perspective in which they were required to mostly rate their responses. On average the respondents took half an hour to forty five minutes to complete the entire questionnaire. The respondents were thanked for their participation.

**RESULTS**

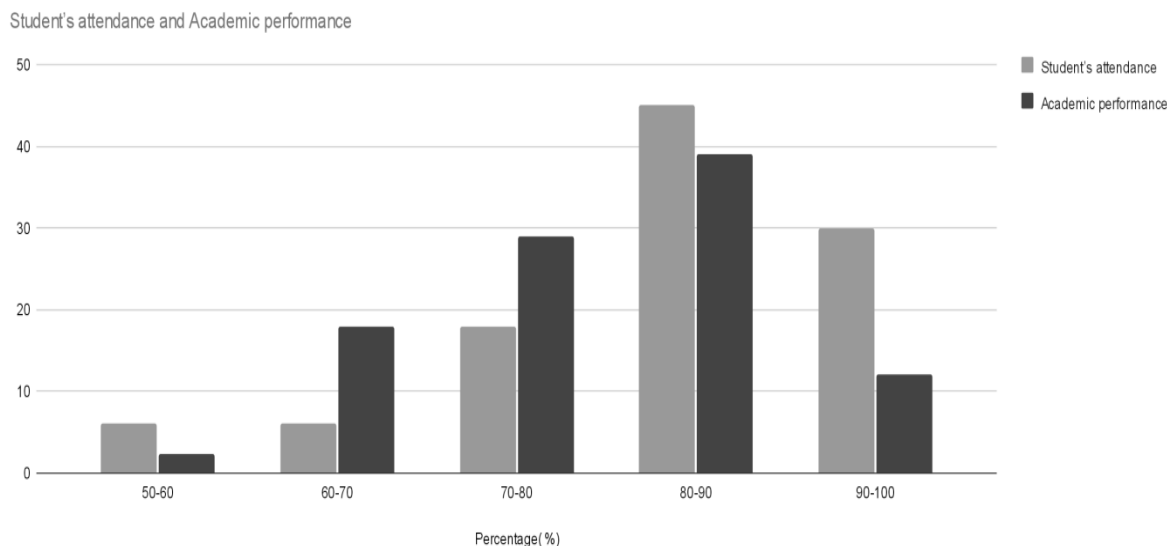
Descriptive and inferential statistics were used to analyse the data. The descriptive statistics was used to analyse the demographic information while responses to open ended question items were subjected to content analysis while t test was used to examine the effects of gender on perceived classroom climate and performance of students.

The result of t test reveals no significant difference among both male and female students on items related to physical environment. In contrast, significant mean differences were found on peer relationships, teacher’s orientation towards learning and teachers student interaction among male and female students. No significant difference was found across gender on perceived performance satisfaction. Inspection of table 2 reveals some relationship between student’s attendance and academic performance in term of percentages with the help of bar graph.

*Table1: Mean differences and F ratio on components of classroom climate and perceived Academic Performance across Gender*

Components of classroom climate and performance satisfaction	Gender		F
	Boys	Girls	
<b>Classroom climate</b>			
Physical environment	20.39	21.20	2.13
Teacher-student interaction	20.22	22.14	12.07**
Peer relation	13.96	14.76	3.55*
Teacher’s orientation towards learning	19.35	20.91	10.91**
<b>B. Performance Satisfaction</b>			
Recent examination	4	4	2.10
Overall satisfaction	4	4	.53

*Graph:1 Percentage of Student Attendance and Academic Performance on various ranges*



**Content analysis of performance satisfaction**

Content analysis was conducted on the descriptive note given by students regarding reasons of performance satisfaction in terms of percentage. On one item that was related to student’s performance satisfaction with their classmate, 43 percent reported that they are optimally satisfied with their performance, 6.3 percent reported that they are very satisfied, 8.1 percent

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are less satisfied. 8.7 percent did not respond, 10.4 percent responded neutrally and 23.12 percent were not satisfied in comparison to their classmates.

In the assessment of performance satisfaction in the previous examination 42 percent reported optimal satisfaction, while 17 percent expressed that they were very satisfied with the performance. In contrast 38 percent of the respondents reported less satisfaction with their performance while 7 percent reported that they are not satisfied with their performance. Only negligible 17 percent reported that they are neutral. 31 percent have not responded to the question related to performance satisfaction. Total 55 percent attributed their performance satisfaction on hard work, extra work and dedication. Approximately 5 and 6 percent of students reported family and teacher and improvement in previous performance as major reasons for performance satisfaction. 12 percent felt that they were neither satisfied nor dissatisfied. 10.2 percent were not satisfied. Isolated students have given other reasons for their performance satisfaction.

Out of total sample, 20 percent were not satisfied with their performance because of the expectations for much better performance and about 12 percent gave subject specific reasons. The other 7 percent believed that the marking system was unjust because of which they were not satisfied with their performance. Around 20 percent respondents were satisfied whereas 11 percent were neutral and 30 percent did not respond to the question related to this.

Inspection of figure 1 reveal that the students who have obtained 80 to 90 percent marks have exhibited very strong relationship between attendance and performance. Interestingly, the students who have obtained 50 to 60 percent marks have exhibited very weak relationship between attendance and performance. Looking at the overall pattern strong relationship between attendance and academic performance is seen.

The students who have obtained academic scores in the range of 80-and 90 percentage exhibited very good performance and very good attendance. In the contrast student in range of 90 to 100 percent have good attendance and very pad performance in comparison to others. A unique pattern of having neither good nor bad attendance and academic performance was observed in the 60 to 80 percent category of the student. Students with 50 to 60 percent range have very bad attendance and very bad academic performance as well.

## DISCUSSION

The major objective of the study was to examine the correlates of classroom climate on academic performance of middle school male and female students. The major result of the study revealed no gender difference on physical environment component of Classroom climate. However, female students reported significant relationship in terms of interaction with teachers, their relationship with peers and teachers orientation towards learning was strong as compared to male students. This trend of result is explained in terms of major gender role differences. In the Indian context the upbringing of males and female children are very different. In most cases the male child is trained predominantly to take care of outside the home activities like purchasing grocery items, dropping other family members on vehicles to nearby places and so forth. In contrast, the females are expected to perform day to day old tasks like helping senior female members in kitchen related activities. Further the female child are trained to be more accommodative with the need and demands of other family members because in the Indian cultural context the female child is expected to leave their parent's home and move and stay with her husband and their parents in new set up.

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Thus, the females are better equipped to handle emotional relationship with other family members and consequently reported better relationship outside their home setting in school setting with teachers and peers. The result further revealed no significant difference in academic performance. Finally, Irrespective of the gender, those with better academic attendance perform better. Supportive results are obtained by many scholars (Ghazvini & Khajehpour, 2011). It seems that as compared to males the female students are relatively more obedient, sincere, and are more accommodative in terms of relationship with teachers and peers.

### REFERENCES

- Anderson, A., Hamilton, R.J. & Hattie, J. Classroom climate and motivated behaviour in secondary schools. *Learning Environ Res* 7, 211–225 (2004). <https://doi.org/10.1007/s10984-004-3292-9>
- Avant, T. S., Gazelle, H., & Faldowski, R. (2011). Classroom emotional climate as a moderator of anxious solitary children's longitudinal risk for peer exclusion: A child × environment model. *Developmental Psychology*, 47(6), 1711–1727. <https://doi.org/10.1037/a0024021>
- Campbell, D.E. Voice in the Classroom: How an Open Classroom Climate Fosters Political Engagement Among Adolescents. *Polit Behav* 30, 437–454 (2008). <https://doi.org/10.1007/s11109-008-9063-z>
- Chávez, R. C. (1984). The Use of High-Inference Measures to Study Classroom Climates: A Review. *Review of Educational Research*, 54(2), 237–261. <https://doi.org/10.3102/00346543054002237>
- Erentaitė R, Vosylis R, Sevalneva D, Melnikė E, Raižienė S and Daukantaitė D (2022) Profiles of Achievement Motivation and Performance in Middle School: Links to Student Background and Perceived Classroom Climate. *Front. Psychol.* 13:820247. doi: 10.3389/fpsyg.2022.820247
- Fischer, F., Schult, J., & Hell, B. (2013). Sex differences in secondary school success: why female students perform better. *European journal of psychology of education*, 28, 529-543.
- Ghazvini, S. D., & Khajehpour, M. (2011). Gender differences in factors affecting academic performance of high school students. *Procedia-Social and Behavioral Sciences*, 15, 1040-1045.
- Godfrey, E.B., Grayman, J.K. Teaching Citizens: The Role of Open Classroom Climate in Fostering Critical Consciousness Among Youth. *J Youth Adolescence* 43, 1801–1817 (2014). <https://doi.org/10.1007/s10964-013-0084-5>
- Jerome, E.M., Hamre, B.K. and Pianta, R.C. (2009), Teacher–Child Relationships from Kindergarten to Sixth Grade: Early Childhood Predictors of Teacher-perceived Conflict and Closeness. *Social Development*, 18: 915-945. <https://doi.org/10.1111/j.1467-9507.2008.00508.x>
- Kurt, Y., Özkan, ÇG., and Öztürk, H. (2022). Nursing students' classroom climate perceptions: a longitudinal study. *Nurse Educ. Today* 111:105311. doi: 10.1016/j.nedt.2022.105311
- López, V., Torres-Vallejos, J., Ascorra, P. et al. Construction and validation of a classroom climate scale: a mixed methods approach. *Learning Environ Res* 21, 407–422 (2018). <https://doi.org/10.1007/s10984-018-9258-0>
- Ma Y and Wei C (2022) The relationship between perceived classroom climate and academic performance among English-major teacher education students in Guangxi, China: The mediating role of student engagement. *Front. Psychol.* 13:939661. doi: 10.3389/fpsyg.2022.939661
- Meissel, K. and Rubie-Davies, C.M. (2016), Cultural invariance of goal orientation and self-efficacy in New Zealand: Relations with achievement. *Br J Educ Psychol*, 86: 92-111. <https://doi.org/10.1111/bjep.12103>

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- Montero-Montero, D., López-Martínez, P., Martínez-Ferrer, B., & Moreno-Ruiz, D. (2021). The Mediating Role of Classroom Climate on School Violence. *International Journal of Environmental Research and Public Health*, 18(6), 2790. <https://doi.org/10.3390/ijerph18062790>
- Mucherah, W. Classroom climate and students' goal structures in high-school biology classrooms in Kenya. *Learning Environ Res* 11, 63–81 (2008). <https://doi.org/10.1007/s10984-007-9036-x>
- Parajuli, M., & Thapa, A. (2017). Gender differences in the academic performance of students. *Journal of development and social engineering*, 3(1), 39-47.
- Pianta, R.C. and Hamre, B.K. (2009), Classroom processes and positive youth development: Conceptualizing, measuring, and improving the capacity of interactions between teachers and students. *New Directions for Youth Development*, 2009: 33-46. <https://doi.org/10.1002/yd.295>
- Reid, L. D., & Radhakrishnan, P. (2003). Race matters: The relation between race and general campus climate. *Cultural Diversity and Ethnic Minority Psychology*, 9(3), 263–275. <https://doi.org/10.1037/1099-9809.9.3.263>
- Sanchez-De Miguel, M., Orkaizagirre-Gomara, A., Izagirre-Otaegi, A., Badiola, I., Ortiz de Elguea-Díaz, F. J., Gomez-Gastiasoro, A., Ferriz-Valero, A., et al. (2023). Association among University Students' Motivation, Resilience, Perceived Competence, and Classroom Climate from the Perspective of Self-Determination Theory. *Education Sciences*, 13(2), 147. MDPI AG. Retrieved from <http://dx.doi.org/10.3390/educsci13020147>
- Tsikati, A., & Mabuza, S. (2023). Contribution of Classroom Climate to the Teaching of Agriculture at Senior Secondary Schools in Eswatini. *NACTA Journal*, 67(1). <https://doi.org/10.56103/nactaj.v67i1.108>
- Verónica López, Mauricio Salgado & Ruth Berkowitz (2023) The contributions of school and classroom climate to mathematics test scores: a three-level analysis, *School Effectiveness and School Improvement*, 34:1, 43-64, DOI: 10.1080/09243453.2022.2096645
- Wang, Q., Lee, K. C. S., and Hoque, K. E. (2020). The effect of classroom climate on academic motivation mediated by academic self-efficacy in a higher education institute in China. *Int. J. Learn. Teach. Educ. Res.* 19, 194–213. doi: 10.26803/ijlter.19.8.11
- Yoneyama, S., & Rigby, K. (2006). Bully/Victim Students & Classroom Climate. *Youth Studies Australia*, 25(3), 34–41. <https://search.informit.org/doi/10.3316/ielapa.261569057735777>
- Zedan, R. New dimensions in the classroom climate. *Learning Environ Res* 13, 75–88 (2010). <https://doi.org/10.1007/s10984-009-9068-5>

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### **Conflict of Interest**

The author(s) declared no conflict of interest.

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