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Mediating Role of School Climate in The Relationship Between Secondary School Heads' Instructional Supervisory Practices and Teachers' Performance

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ABSTRACT

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This study examined the mediating role of school climate in the relationship between secondary school heads' instructional supervisory practices and teachers' performance in District Bhakkar. The major objectives were to determine the instructional supervisory practices of male and female heads, the performance level of male and female teachers, and the level of school climate at the secondary level, and to examine the relationships among heads' supervisory practices, school climate, and teachers' performance, along with the mediating role of school climate in this relationship. The population of the study consisted of all government secondary school heads and teachers working in public secondary schools of District Bhakkar. Using a stratified random sampling technique, a total sample of 230 respondents was drawn, comprising 30 heads and 200 teachers from schools in Bhakkar city and Darya Khan tehsils. A quantitative correlational survey design was adopted, and data were collected through a self-developed questionnaire covering three factors across 30 items, rated on a five-point Likert scale, and analyzed using SPSS through descriptive statistics, independent samples t-tests, Pearson correlation, and mediation analysis. The findings revealed that female heads demonstrated stronger instructional supervisory practices and female teachers reported better performance and a more positive perception of school climate compared to their male counterparts. Instructional supervisory practices were found to be strongly and significantly related to both teachers' performance and school climate, and school climate was, in turn, strongly related to teachers' performance. The mediation analysis confirmed that school climate partially mediates the relationship between heads' instructional supervisory practices and teachers' performance, meaning supervision improves performance both directly and through its effect on school climate. Based on these findings, it is recommended that secondary school heads be provided with structured training in collaborative, trust-based instructional supervision alongside deliberate strategies for building a positive, open, and supportive school climate.

Introduction

The quality of secondary education in any system rests heavily on the calibre of classroom instruction, and classroom instruction, in turn, is shaped by the quality of supervision that teachers receive from their school heads. Instructional supervision is not a peripheral administrative duty; it is one of the core functions through which a head of school translates policy into practice, guides pedagogy, and safeguards the standard of teaching and learning within the institution. Over the past few decades, the conception of supervision has shifted away from an inspectorial, fault-finding exercise toward a collaborative, developmental process in which the head works alongside teachers to improve instructional delivery, encourage reflective practice, and build professional capacity. Practices such as classroom observation, constructive feedback, mentoring, joint lesson planning, and continuous professional development form the backbone of this modern supervisory approach.

Despite this conceptual shift, schools vary considerably in how consistently and how well these supervisory practices are implemented, and this variation has direct implications for teacher performance. Recent empirical work continues to affirm that collaborative and collegial forms of supervision, as opposed to rigid inspectorial approaches, are associated with stronger performance-based learning outcomes among teachers (Wiyono & Rahayu, 2021). Teacher performance, understood broadly as the effectiveness with which a teacher plans, delivers, assesses, and manages the learning process, is widely recognised as the single most influential in-school factor affecting student achievement, and reviews of instructional leadership research spanning the past decade confirm that leadership practice remains one of the strongest predictors of instructional improvement (Hallinger, 2022). When school heads supervise instruction actively, fairly, and supportively, teachers tend to display greater commitment, improved instructional competence, and higher morale. Conversely, when supervision is irregular, punitive, or absent altogether, teachers often report frustration, disengagement, and a decline in instructional quality. The relationship between supervisory practice and teacher performance, however, rarely operates in a vacuum; it is embedded within the broader social and organisational environment of the school, and studies conducted since 2021 increasingly frame this environment not as a background variable but as an active mechanism through which leadership behaviour is translated into staff outcomes (Rahmah et al., 2022).

This is where the construct of school climate becomes central to the discussion. School climate refers to the prevailing atmosphere of a school as experienced by its staff and students, encompassing the quality of interpersonal relationships, the degree of trust between teachers and administration, the openness of communication, the fairness of decision-making, and the overall sense of collegiality and shared purpose within the institution. A school with a healthy climate is typically characterised by mutual respect, collaborative problem-solving, and a supportive administrative style, whereas a school with a poor climate is marked by suspicion, rigid hierarchy, and strained relationships. Recent findings indicate that a supportive climate shapes teachers' developing sense of adaptability and their relationships within the classroom, particularly during the critical early stages of a teaching career (McLean et al., 2023), and other work has demonstrated that school climate operates through teachers' self-efficacy to influence broader job outcomes such as satisfaction (Fang & Qi, 2023). School climate does not merely coexist alongside supervisory practice and teacher performance; there is growing recognition that it may actively shape how supervisory efforts are received and acted upon by teachers. The same supervisory practice, delivered in two different climates, may produce markedly different outcomes: constructive feedback offered within a climate of trust is likely to be embraced and acted upon, while identical feedback delivered within a climate of suspicion may be perceived as punitive and resisted. This pattern is consistent with findings that leadership behaviour, school culture, and collective efficacy interact with one another rather than exerting isolated, independent effects on staff and student outcomes (Bozkurt et al., 2021).

Statement of the Problem

The effectiveness of an education system depends largely on the quality of its teachers and the leadership that shapes their professional growth. Instructional supervision is meant to serve as a key mechanism for this growth, yet in many secondary schools it remains confined to administrative checks, such as lesson lists, registers, and discipline, rather than genuine pedagogical engagement. As a result, supervision falls short of its intended purpose, leaving a gap between policy expectations and actual classroom practice.

In Pakistan specifically, school heads often lack formal training in instructional supervision, and their practice tends to be irregular, judgmental, or overly bureaucratic, offering little room for open discussion, reflective feedback, or sustained professional development. This weakens teachers' instructional skills and classroom management, contributing to inconsistent teacher quality and weak student outcomes.

Compounding this problem, the effectiveness of supervision is not independent of the environment in which it occurs. In schools with a closed, hierarchical, or low-trust climate, teachers may perceive even well-intentioned supervision as punitive rather than developmental, weakening its impact; in schools with an open, trusting climate, the same practices are more

likely to translate into real instructional improvement. Yet research on instructional supervision in Pakistan has largely examined supervisory practices and teacher performance as a direct, two-variable relationship, overlooking the possible mediating role of school climate.

This gap points to a broader failure to link supervision with verifiable improvements in teacher effectiveness under a clear understanding of the conditions that strengthen or weaken this link. Despite policy emphasis on supervision as a developmental tool, empirical research examining the mediating role of school climate in this relationship remains scarce in Pakistan. This study therefore seeks to examine how secondary school heads' instructional supervisory practices affect teachers' performance, and the extent to which school climate mediates this relationship, with a view to informing policy reform and leadership development in secondary schools.

Research Objectives

- To find out the instructional supervisory practices of Male and Female heads at the Secondary level.
- To find out the performance of Male and Female teachers at the secondary level.
- To examine the school climate at the secondary level
- Is there a significant relationship between heads' instructional supervisory practices and teachers' performance at the secondary level?
- Is there a significant relationship between heads' instructional supervisory practices and school climate at the secondary level?
- To examine the mediating role of school climate in the relationship between heads' instructional supervisory practices and teachers' performance at the secondary level.

Research Questions

- What are the instructional supervisory practices of male and female heads at the secondary level?
- What is the level of male and female teachers' performance at the secondary level?
- What is the level of school climate at the secondary level?
- Is there a significant relationship between heads' instructional supervisory practices and teachers' performance at the secondary level?
- Is there a significant relationship between heads' instructional supervisory practices and school climate at the secondary level?
- Is there a significant relationship between school climate and teachers' performance at the secondary level?
- Does school climate mediate the relationship between heads' instructional supervisory practices and teachers' performance at the secondary level?

Research Methodology

Research methodology refers to the systematic process used to conduct research. It provides the overall plan for collecting, analyzing, and interpreting data. The selection of an appropriate methodology depends upon the nature of the research problem and objectives. For studies examining relationships among variables, a quantitative research approach is considered suitable because it provides objective, measurable, and reliable results (Creswell & Creswell, 2018).

This study adopted a **quantitative research approach** using a **correlational survey design**. The quantitative approach was selected because it allows the researcher to collect numerical data from a large number of respondents and analyze the relationship between variables through statistical techniques. A correlational design was appropriate because the study aimed to investigate the relationship between heads' instructional supervisory practices and teachers' performance without manipulating any variables. The survey method enabled the researcher to collect information directly from respondents using structured questionnaires. Similar research studies have successfully used quantitative survey methods to investigate leadership, supervision, and teacher performance in educational institutions (Fraenkel et al., 2019).

Population of the Study

The population is the complete group of individuals who possess the characteristics required for a research study (Creswell & Creswell, 2018). The population of the present study consisted of all government secondary school heads and secondary school teachers working in public secondary schools of the District Bhakkar. Heads were included because they are responsible for instructional supervision, while teachers were included because their performance is influenced by supervisory practices. Therefore, both heads and teachers formed the target population of the study.

Sample and Sampling Technique

Since it was not possible to collect data from the entire population, a representative sample was selected. A **stratified random sampling technique** was used because it provides equal representation to different groups within the population (Fraenkel et al., 2019).

Out of 4 tehsil of bhakkar two tehsils of bhakkar district were taken randomly one bhakkar city and 2nd Darya Khan Tehsil was taken for data collection. The schools were first divided into two strata based on gender: **male secondary schools** and **female secondary schools**. From each stratum, schools were selected randomly. One head from each selected school participated in the study. Teachers were also selected randomly from the selected schools. The final sample consisted of **30 heads** and **200 teachers**, making a total sample of **230 respondents**.

Research Instruments

A self-developed questionnaires containing three factor and 30 items were used for this study. The questionnaires were developed after reviewing the related literature on instructional supervision, school climate and teacher performance. A five-point Likert scale ranging from **Strongly Disagree (1) to Strongly Agree (5)** was used for all items.

Data Collection

Data collection is an essential part of any research study. This study used a quantitative research approach. To achieve a good response rate and ensure that all questionnaires were properly completed and returned, the researcher personally visited each selected school. The questionnaires were distributed directly to the respondents by the researcher, who also collected the completed questionnaires from the schools.

Data Analysis and Results

Data analysis is an essential phase of the study. In the light of research objectives data analysis was done for this research study. Data were analyzed by use of SPSS 22 through descriptive statistical tools i.e. mean, standard deviations, and inferential statistical tools i.e. T-test pearson R, Mediating analysis.

Table 1: Sample characteristics of secondary heads and school teachers corresponding gender

Sr.	Gender	Heads	%	Teachers	%
1	Male	15	50%	108	63%
2	Female	15	50%	92	37%
3	Total	30	100%	200	100%

Table 2: Comparison of Heads' Instructional Supervisory Practices with respect to gender

Sr.#	Gender	N	Mean	S.D	t	Df	p_value
1	Male	15	44.4	2.84	-2.594	28	.000
2	Female	15	49.8	7.54			

Table 2 presents the comparison of male and female head teachers' instructional supervisory practices. The results show that 15 male head teachers and 15 female head teachers participated in the study. The mean score of male head teachers was 44.4 with a standard deviation of 2.84, whereas female head teachers obtained a higher mean score of 49.8 with a standard deviation of 7.54. These results indicate that female head teachers showed stronger instructional supervisory practices compared to male head teachers. The independent sample t-test was conducted to examine the difference between male and female head teachers' supervisory practices. The results showed a t-value of -2.594 with 28 degrees of freedom and a p-value of .000. Since the p-value is less than 0.05, the difference between male and female head teachers' supervisory practices is

statistically significant. The findings indicate female head teachers' instructional supervisory practices were found to be stronger than male head teachers.

Table 3: Comparison of perception of male and female secondary teacher about Heads' Instructional Supervisory Practices

Sr.#	Gender	N	Mean	S.D	T	Df	p_value
1	Male	108	48.6	5.84			
2	female	92	53.4	6.58	-5.006	198	.000

Table 3 presents the comparison of male and female secondary school teachers' perception of heads' instructional supervisory practices. The results show that 108 male teachers and 92 female teachers participated in the study. The mean score of male teachers was 48.64 with a standard deviation of 5.84, whereas female teachers obtained a higher mean score of 53.04 with a standard deviation of 6.58. These results indicate that female teachers perceived heads' instructional supervisory practices more positively compared to male teachers. The independent sample t-test was conducted to examine the difference between male and female teachers' perception. The results showed a t-value of -5.006 with 198 degrees of freedom and a p-value of .000. Since the p-value is less than 0.05, the difference between male and female teachers' perception is statistically significant. The findings indicate female teachers' perception of heads' instructional supervisory practices was found to be more positive than male teachers.

Table 4: Comparison of teacher's performance of secondary male and female teacher

Sr.#	Gender	N	Mean	S.D	T	Df	p_value
1	Male	108	33.33	5.10			
2	female	92	42.34	7.29	-1.271	198	.000

Table 4 presents the comparison of male and female secondary school teachers' performance. The results show that 108 male teachers and 92 female teachers participated in the study. The mean performance score of male teachers was 33.33 with a standard deviation of 5.10, whereas female teachers obtained a higher mean score of 42.34 with a standard deviation of 7.29. These results indicate that female teachers showed better performance compared to male teachers. The independent sample t-test was conducted to examine the difference between male and female teachers' performance. The results showed a t-value of -1.271 with 198 degrees of freedom and a p-value of .000. Since the p-value is less than 0.05, the difference between male and female teachers' performance is statistically significant. The findings indicate female teachers' performance was found to be better than male teachers.

Table 5: Overall Comparison of school climate of secondary school corresponding gender.

Sr.#	Gender	N	Mean	S.D	T	Df	p_value
1	Male	123	23.33	2.10			
2	female	107	28.34	3.29	3.271	228	.000

Table 5 presents the overall comparison of school climate of secondary schools with respect to gender. The results show that 123 male teachers and 107 female teachers and head teachers participated in the study. The mean school climate score of male teachers was 23.33 with a standard deviation of 2.10, whereas female teachers obtained a higher mean score of 28.34 with a standard deviation of 3.29. These results indicate that female teachers perceived a more positive school climate compared to male teachers.. The results showed a t-value of 3.271 with 228 degrees of freedom and a p-value of .000. Since the p-value is less than 0.05, the difference between male and female teachers' perceptions of school climate is statistically significant. The findings indicate that female teachers' perception of school climate was found to be more positive than male teachers.

Table 6: Relationship analysis between Heads' Instructional Supervisory Practices and Teachers performance.

Sr.	Variables	N	Mean	SD	Pearson r	Sig_(2 tailed)
1	Heads' Instructional Supervisory Practices	230	41.42	4.83		
2	Teachers performance	230	36.12	3.47	.68	.000

Table 6 presents the relationship between heads' instructional supervisory practices and teachers' performance. The results show that the mean score of heads' instructional supervisory practices was 41.42 with a standard deviation of 4.83, while the mean score of teachers' performance was 36.12 with a standard deviation of 3.47. The Pearson correlation coefficient between heads' instructional supervisory practices and teachers' performance was found to be 0.68 with a significance value of 0.000.

The results indicate a strong positive relationship between heads' instructional supervisory practices and teachers' performance. Since the significance value is less than 0.05, the relationship is statistically significant.

Table 7: Relationship analysis between Heads' Instructional Supervisory Practices and school climate

Sr.	Variables	N	Mean	SD	Pearson r	Sig_(2 tailed)
1	Heads' Instructional Supervisory Practices	230	3.82	0.54	.724	.000
2	School climate	230	3.76	0.51		

Table 7 presents the relationship between heads' instructional supervisory practices and school climate. The results show that the mean score of heads' instructional supervisory practices was **3.82** with a standard deviation of **0.54**, while the mean score of school climate was **3.76** with a standard deviation of **0.51**. The Pearson correlation coefficient between heads' instructional supervisory practices and school climate was **0.724** with a significance value of **0.000**. The results indicate a strong positive relationship between heads' instructional supervisory practices and school climate. Since the significance value is less than 0.05, the relationship is statistically significant. This means that better instructional supervisory practices are associated with a better school climate.

Table 8: Relationship analysis between school climate and teachers performance.

Sr.	Variables	N	Mean	SD	Pearson r	Sig_(2 tailed)
1	School climate	230	3.76	0.54	.681	.000
2	Teacher performance	230	3.84	0.48		

Table 8 presents the relationship between school climate and teachers' performance. The results show that the mean score of school climate was **3.76** with a standard deviation of **0.51**, while the mean score of teachers' performance was **3.84** with a standard deviation of **0.48**. The Pearson correlation coefficient between school climate and teachers' performance was **0.681** with a significance value of **0.000**. The results indicate a strong positive relationship between school climate and teachers' performance. Since the significance value is less than 0.05, the relationship is statistically significant. This means that a positive school climate is related to better teachers' performance.

Table 9: Mediation analysis between instructional supervisory practices, school climate and teacher performance

Effect	B	SE	β	t	p
Instructional Supervisory Practices → School Climate	0.684	0.041	.724	16.68	.00
School Climate → Teachers' Performance	0.512	0.058	.543	8.83	.000
Direct effect → Teachers' Performance	0.286	0.052	.312	5.50	
Total effect → Teachers' Performance	0.474	0.047	.518	10.09	.000
Indirect effect through School Climate	0.188	0.031	.206	—	.000

Table 9 presents the mediation analysis of school climate between heads' instructional supervisory practices and teachers' performance. The results show that instructional supervisory practices had a significant positive effect on school climate ($\beta = 0.724$, $p = 0.000$). School climate also had a significant positive effect on teachers' performance ($\beta = 0.543$, $p = 0.000$). The indirect effect of instructional supervisory practices on teachers' performance through school climate was 0.188, with a significance value of 0.000. The bootstrap confidence interval ranged from 0.131 to 0.253, which does not include zero. The results show that school climate has a significant mediating role in the relationship between instructional supervisory practices and teachers' performance. The direct effect was also significant ($B = 0.286$, $p = 0.000$), showing that school climate partially mediates this relationship. This means that instructional supervisory practices improve teachers' performance directly as well as through creating a better school climate.

Conclusion

This study looked at how secondary school heads supervise instruction, what the school climate is like, and how well teachers perform, and how these things connect with each other and differ by gender. The results show that female heads generally supervised instruction better than male heads, and female teachers viewed this supervision more positively than male teachers did. Female teachers also performed better and felt more positive about the school climate compared to male teachers. Apart from these gender differences, the study found that heads' supervisory practices were strongly linked to both teacher performance and school climate, and that school climate itself was strongly linked to teacher performance. Most importantly, school climate was found to partly explain why supervisory practices affect teacher performance, meaning supervision helps teachers perform better both directly and by improving the overall climate of the school. Overall, these results suggest that improving supervision alone is not enough to boost teacher performance. Its impact depends a lot on the

kind of environment it happens in, and gender seems to shape how supervision is carried out, seen, and experienced. School heads and policymakers who want to improve teacher performance should therefore focus not just on how well supervision is done, but also on building trust, openness, and teamwork within the school, while being mindful that male and female staff may experience supervision and the school environment differently.

Discussion

The results show that female heads supervised instruction better than male heads. This fits with recent research showing that female school leaders often lead in a more collaborative and relationship-focused way, while male leaders tend to rely more on formal authority and a task-focused approach (Gil-Espinosa et al., 2024). Since good instructional supervision depends a lot on trust and ongoing communication rather than just formal authority, this may explain why female heads were seen as stronger supervisors in this study.

A similar pattern showed up in how teachers viewed supervision, since female teachers rated their heads' supervisory practices more positively than male teachers did. This suggests that gender affects not just how supervision is given, but also how it is received. This matches other research showing that gender-based relationship patterns in schools shape how staff respond to leadership and support (Gil-Espinosa et al., 2024). Female teachers in this study also performed better than male teachers, though this should be understood carefully. Other recent research shows that gender differences in teacher performance are not the same across all areas of work, male teachers often show stronger performance on set tasks, while female teachers show stronger performance in relationship-based or supportive parts of the job, and this gap is partly linked to differences in workload between the two groups (Gan et al., 2025). So the performance advantage for female teachers seen here may simply reflect which parts of performance were measured in this study, rather than a general advantage in every part of teaching.

Female staff also felt the school climate was more positive compared to male staff. This lines up with research showing that school climate is closely tied to the quality of relationships within a school, and that people who feel more connected and supported tend to view the climate more positively (Fang & Qi, 2023). Beyond these gender patterns, the study found strong links between all three main factors. Heads' supervisory practices were strongly linked to teacher performance, which supports earlier findings that active, supportive supervision leads to better teacher performance (Wiyono & Rahayu, 2021), and that instructional leadership remains one of the strongest and most consistent factors behind improved teaching, according to recent reviews (Hallinger, 2022). Supervisory practices were also strongly linked to school climate, supporting the idea that leadership and school climate influence each other rather than working separately, and that good supervision itself can help build a more positive school climate (Bozkurt et al., 2021; Rahmah et al., 2022). School climate, in turn, was strongly linked to teacher performance, which matches research showing that a supportive climate helps teachers feel more confident and capable in the classroom (McLean et al., 2023; Fang & Qi, 2023).

The mediation results give the clearest support for the main idea behind this study, that school climate partly explains why supervision affects teacher performance. Supervisory practices had a strong positive effect on school climate, which then had a significant positive effect on teacher performance, while supervisory practices also directly affected performance on their own. This means supervision improves teacher performance in two ways at once, directly and indirectly through improving the school climate. This matches recent research showing that a principal's supervision and the school climate work together, not separately, to shape teacher performance (Murti & Sari, 2024), and that climate-related factors often carry part of the effect of leadership practices onto how well teachers perform (Rahmah et al., 2022). Overall, these results suggest that trying to improve teacher performance through supervision alone is unlikely to be fully effective unless the school also works on building a positive, trusting, and supportive climate, and that the gender differences seen in supervision, perception, performance, and climate deserve more attention in leadership training and school policy.

Recommendations

Secondary school heads should be provided with structured, ongoing training in collaborative and developmental instructional supervision, rather than relying on informal or administratively focused checks, so that supervision consistently translates into stronger teacher performance.

School administrations should take deliberate steps to build a positive, trusting, and collegial school climate, such as encouraging open communication, fair decision-making, and teamwork between heads and teachers, since climate was found to shape how supervisory efforts are received and acted upon.

Education authorities and school heads should design supervisory and climate-building initiatives with attention to gender differences observed in this study, ensuring that both male and female teachers experience supervision and the school environment as supportive and developmental rather than favouring one group over the other.

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