

Mediating Role of School Management on the Relationship Between Research Competence and Organisational Climate in Public Secondary Schools

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ABSTRACT

Poor school organisational climate persists. The mediating role of school management on the relationship between research competence and organisational climate was examined. Using a predictive research design, data from 311 public secondary school teachers, selected through total enumeration, were analysed using mediation analysis. The findings support Systems Theory, showing that research competence influences organisational climate indirectly through school management as the process. Future studies may examine additional mediating variables and employ qualitative methods to identify potential mediators. School leaders are encouraged to enhance research competence through strengthened school management practices to achieve a more positive organisational climate.

Keywords: Mediating role of school management, research competence, organisational climate, public secondary schools

INTRODUCTION

The Problem and Its Scope

Poor organisational climate in school institutions has emerged as a significant global concern. Recent global studies indicate that unfavourable school climates are increasingly evident across regions (Jiang & Lv, 2024; Hao et al., 2024).

A systematic review of school climate research across countries highlighted that negative perceptions of school environments persist as a widespread issue (Cesar Vallejo University, 2024). In China specifically, studies have shown inconsistencies in educators' perceptions of school climate, indicating challenges in maintaining cohesive institutional environments (Zhang et al., 2024). Similarly, in Romania, research on preschool education has identified variations in organisational climate that reflect broader institutional concerns within educational systems (Redeş et al., 2023). In South Africa and other countries included in recent cross-national reviews, disparities in school climate perceptions further demonstrated the widespread nature of this issue across educational contexts (Cesar Vallejo University, 2024).

In the Philippines, poor organisational climate in school institutions is also recognised as a significant issue within the education sector. Recent local studies have documented varying levels of school climate in public schools, indicating inconsistencies in how teachers perceive their institutional environment (Gonzales & Dioso, 2024). Additionally, research on organisational climate and school effectiveness in Philippine schools highlighted organisational climate concerns that influence institutional conditions (Sardido & Oliva, 2025).

The consequences of poor organisational climate in school institutions are substantial and far-reaching. Empirical evidence suggests that unfavourable school climates are associated with reduced teacher engagement, diminished professional learning, and weakened institutional effectiveness (Hao et al., 2024; Jiang & Lv, 2024). Moreover, negative school climate is associated with decreased academic commitment and problematic student experiences, including issues related to well-being and school participation (Cesar Vallejo University, 2024).

These outcomes demonstrate that a poor organisational climate not only affects educators but also has broader implications for students and the overall quality of education, underscoring its significance as a critical issue in schools. This study was conducted for this reason.

Significance of the Study

This study is significant because it addresses the need to understand how evidence-based decision-making and administrative practices contribute to creating productive and adaptive school environments. It supports Sustainable Development Goal 4 (Quality Education) and Sustainable Development Goal 9 (Industry, Innovation, and Infrastructure) by promoting a culture of inquiry, innovation, and continuous improvement in educational institutions. In the Philippine context, the findings may assist the Department of Education in enhancing school leadership practices, strengthening teachers' research competence, and improving organizational climate to support quality education. At the institutional level, the results are valuable to Holy Cross of Davao College in reinforcing faculty development, fostering data-driven leadership, and sustaining a mission-oriented academic community anchored on excellence, ethical management, and holistic formation, which may ultimately contribute to improved educational outcomes and long-term sustainability.

Statement of the Problem

This study examined the mediating role of school management in the relationship between research competence and organisational climate. Specifically, the following objectives were pursued:

1. To describe the levels of research competence in terms of framing questions and data collection, identifying literature and theoretical knowledge, analysing and presenting research data, motivation to write research, and difficulty in writing research; school management in terms of transparency, accountability, responsibility, autonomy, fairness, and participation; and the organisational climate in terms of collegial leadership, professional teacher behavior, achievement press, and institutional vulnerability;
2. To determine the significance of the correlation between research competence, school management, and the organisational climate;
3. To determine the significance of the direct effect of research competence on organisational climate, controlling for school management.
4. To determine the significance of the indirect effect of research competence on organisational climate through school management; and
5. To determine the significance of the total effect of research competence on organisational climate.

Hypotheses

Ho1: Research competence and school management do not significantly correlate with organisational climate.

Ho2: The direct effect of research competence on organisational climate, controlling for school management, is not significant.

Ho3: The indirect effect of research competence on organisational climate through school management is not significant.

Ho4: The total effect of research competence on organisational climate is not significant.

THEORETICAL FRAMEWORK AND CONCEPTUAL FRAMEWORK

This study is anchored on the Systems Theory proposed in the 1940's by the biologist Ludwig von Bertalanffy. It proposes that complex systems function through interconnected components. The theory explains that inputs are transformed through a process to produce outputs. It emphasises that input leads to output through an interacting process within the system (Hamid, 2020).

In this study, research competence, as a predictive variable indicated by framing questions and data collection, identifying literature and theoretical knowledge, analysing and presenting research data, motivation to write research, and difficulty in writing research (Comon et al., 2024), serves as the input element highlighted in the theory. The school management, as a mediator variable, indicated by transparency, accountability, responsibility, autonomy, fairness, and participation (Supriadi et al., 2021), is associated with the process as stated in the theory. Finally, organisational climate, as a criterion variable indicated by collegial leadership, professional teacher behaviour, achievement press, and institutional vulnerability (Hoy et al., 2022), relates to the output aspect asserted in the theory. Hence, this study is fully anchored on the theory.

Mediator Variable

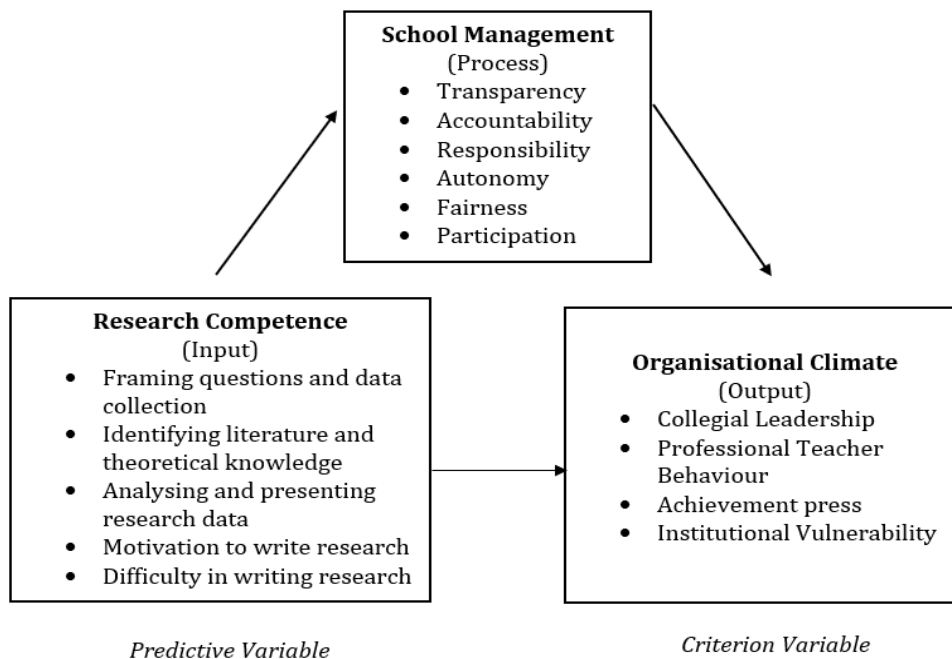


Figure 1. Conceptual Framework of the Study

METHOD

Included in this chapter are the research design, locale of the study, sample and sampling technique, data gathering technique, data analysis technique, and ethical consideration.

Research Design

This study employed a predictive research design, focusing on forecasting future outcomes by analysing patterns in existing or historical data, complementing traditional research that explains past events and using statistical models to generate predictions (Sghir et al., 2022). It is suitable for this study because it enables researchers to anticipate trends, support evidence-based decision-making, and implement early interventions, particularly in education and the social sciences (Khalil & Ebner, 2023). Its advantages include revealing hidden patterns in large datasets, providing forward-looking insights, enhancing strategic planning, and improving decision accuracy by emphasising prediction over description (Shmueli et al., 2023).

Locale of the Study

The study was conducted in seven standalone public secondary schools in the four districts of Alabel Municipality, under the supervision of the Department of Education – Division of Sarangani, Philippines. The municipality comprises public secondary schools that cater to junior and senior high school learners in its different barangays. These schools serve as key educational institutions where the Department of Education's policies, programs, and practices are implemented, particularly in research engagement, school management,

and organisational climate. The educational setting provides a comprehensive context for understanding how teachers' research competence and school management interact to influence the overall organisational climate within secondary schools in the area.

Sample and Sampling Technique

The study's sample consisted of 311 secondary public school teachers employed by the Department of Education (DepEd) during School Year 2025–2026. These teachers held regular permanent positions and had at least three years of teaching experience. They were actively teaching and came from different fields of specialisation, handling a variety of subjects across the secondary level.

The sampling technique used was total enumeration. It is also known as total population sampling. It is a technique in which all members of a defined population are included in the study, ensuring complete data coverage. It is commonly applied when the population is small, accessible, or possesses unique characteristics that require every member's participation. Its main advantages include the elimination of sampling bias and increased accuracy and reliability of findings, although it may demand more time and resources (Ahmed, 2024; Adeoye, 2023).

Data Gathering Technique

The survey technique was used in gathering data. This technique is a systematic method of collecting information from a sample using structured questionnaires to describe the characteristics, opinions, or behaviours of a larger population. It is applied in research to efficiently assess, test, or generalise findings within a defined group (Sheikh et al., 2024). It offers advantages such as reaching large and diverse populations, producing quantifiable data for pattern analysis, enabling generalisation, allowing faster data collection, and supporting replicability through standardised procedures (Oranga & Matere, 2025).

The study utilised three adapted questionnaires. The first questionnaire is the Research Competence questionnaire, adapted from Comon et al. (2024). It measured teachers' research competence using 50 items, yielding a Cronbach's alpha of 0.975. The second instrument is the school management questionnaire adapted from Supriadi et al. (2021). It assessed school management practices through 20 items with a reliability coefficient of 0.940. The third questionnaire is the organisational climate instrument, adapted from Hoy et al. (2022). It evaluated the school organisational climate using 27 items, which yielded a Cronbach's alpha of 0.921.

Data Analysis Technique

In this study, the data analysis techniques used were descriptive, correlation, and mediation analyses. Descriptive analysis helps organise and summarise large amounts of data, making it easier for researchers to understand real-world patterns while saving time, no matter the situation or field of study (Costa, 2024). In this analysis, the mean and standard deviation were used as statistical tools. Moreover, the correlation analysis examines the strength and direction of the relationship between two continuous variables (Rizk, 2023). The Pearson Product-moment correlation statistical tool was used. Lastly, mediation analysis separates the overall effect of the treatment into two parts: the indirect effect, which operates through one or more middle factors, or mediators, and the direct effect, which explains the remaining part of the outcome that is not caused by those mediators (Celli, 2022). The beta-estimate statistical tool for the direct, indirect, and total effects of the determinant was utilised.

The following is the basis for the interpretation of the descriptive level of the variables:

Scale	Level	Research Competence	School Management	Organisational Climate
1.00 – 1.74	Very low	Very poor	Very poor	Very poor
1.75 – 2.49	Low	Poor	Poor	Poor
2.50 – 3.24	High	Good	Good	Good
3.25 – 4.00	Very high	Very good	Very good	Very good

The standard deviation value is based on the following standard interpretation:

Range	Description	Interpretation
$SD \leq 0.50$	Highly Consistent Responses	Strong and uniform perception
$SD = 0.51 - 1.00$	Moderately Consistent Responses	Acceptable consistency
$SD = 1.01 - 1.50$	Low Consistency Responses	Differing views or experiences
$SD > 1.50$	Very Low Consistency Responses	High variability and lack of consensus

The interpretation of the strength of the correlation is based on the following standard scheme:

Computed r	Descriptive Interpretation
+/- 1.00	Perfect correlation
Between +/- 0.75 – +/- 0.99	High correlation
Between +/- 0.51 – +/- 0.74	Moderately high correlation
Between +/- 0.31 – +/- 0.50	Moderately low correlation
Between +/- 0.01 – +/- 0.30	Low correlation
0.00	No correlation

The standard measure for the interpretation of the strength of the mediation is as follows:

Proportion Mediated	Interpretation
< 0.20	Weak Mediation
0.20 – 0.50	Moderate Mediation
> 0.50	Strong Mediation

Ethical Considerations

The study strictly adhered to ethical standards by ensuring respect for all respondents through informed consent, guaranteeing the confidentiality of their responses, and upholding voluntary participation without coercion. In addition, research integrity was maintained by securing approval from a panel of experts, obtaining permission from the Department of Education (DepEd), and obtaining ethical clearance from the Society for Moral Integrity and Legal Ethics (SMILE) prior to conducting the study.

RESULTS

Included in this chapter are the results of the descriptive, correlation, and mediation analyses. The summary of findings is also presented.

Descriptive Results

Table 1 is descriptive. It contains the variables involved in the study, namely research competence, school management, and organisational climate, with their respective indicators; and the number of samples, standard deviation, mean, and descriptive level for each variable.

Table 1: Descriptive Table (N=311)

Variables	N	Standard Deviation	Mean	Descriptive Level
School Management	311	.34	3.42	Very High
Transparency	311	.57	3.58	Very High
Accountability	311	.47	3.29	Very High
Responsibility	311	.43	3.40	Very High
Autonomy	311	.43	3.40	Very High

Fairness	311	.43	3.37	Very High
Participation	311	.36	3.46	Very High
Research Competence	311	.23	3.17	High
Framing questions and data collection	311	.38	3.43	Very High
Identifying literature and theoretical knowledge	311	.34	3.37	Very High
Analysing and presenting research data	311	.46	3.26	Very High
Motivation to write research	311	.45	3.25	Very High
Difficulty in writing research	311	.76	2.52	Very High
Organisational Climate	311	.28	3.45	Very High
Collegial Leadership	311	.45	3.70	Very High
Professional Teacher Behavior	311	.51	3.53	Very High
Achievement Press	311	.50	3.40	Very High
Institutional Vulnerability	311	.56	3.15	High

Specifically, the table shows that the school management variable had a mean of 3.42, indicating a very high level. It indicates that school management practices, as perceived by the respondents, are very good. All its indicators are described as very high. The corresponding standard deviation of 0.34 is described as highly consistent, indicating strong and uniform perception. Furthermore, the research competence variable had a mean of 3.17, indicating that respondents' research competence is generally good, with all indicators at a very high level; framing questions and data collection had the highest mean, and difficulty in writing research had the lowest. The standard deviation of 0.23, which is considered highly consistent, indicates strong, uniform responses. Finally, the organisational climate variable had a mean of 3.45, indicating a very high level of positivity among the respondents, with all indicators except institutional vulnerability at a very high level. The standard deviation of 0.28, which is considered highly consistent, indicates strong and uniform perceptions among the respondents.

School management and organisational climate are both interpreted as very high, indicating that these are consistently and strongly observed in the schools. However, institutional vulnerability stands out as relatively weaker within organisational climate. In contrast, research competence is interpreted as high, suggesting that while teachers generally demonstrate good research capability, it is not as strongly manifested as school management and organisational climate.

Correlation Results

Table 2 is a correlation table. It presents the determinant and criterion variables. It shows the r-value, p-value, decision on the null hypothesis, and the corresponding interpretation.

Table 2: Correlation Table (N=311)

Variables	Organisational Climate			
	r-value	p-value	Decision on H_0	Interpretation
School Management	.617	.000	Reject H_0	Moderately high positive significant correlation
Research Competence	.308	.000	Reject H_0	Moderately low, positive, and significant correlation

Level of Significance: 0.05, Decision Rule: Reject H_0 if $p < 0.05$

Specifically, the table shows that the correlation between school management and organisational climate obtained a p-value of 0.000, which is lower than the 0.05 level of significance; hence, the null hypothesis was rejected. It indicates that the correlation is statistically significant. The r-value of 0.617 reflects a moderately high positive correlation between school management and organisational climate. It implies that as school management practices improve, the organisational climate also becomes more positive. Similarly, research competence yielded a p-value of 0.000, which is also lower than the 0.05 level of significance; hence, the null hypothesis was rejected. It indicates that the correlation is statistically significant. The r-value of 0.308 shows a moderately low positive correlation between research competence and organisational climate. It implies that greater research competence is associated with improvements in teachers' organisational climate

Both school management and research competence show significant positive relationships with organisational climate, meaning that improvements in either are associated with a more positive school environment. Compared to research competence, school management shows a stronger positive correlation, indicating greater influence in enhancing the organisational climate.

Mediation Results

Table 3 is a mediation table. It contains the path/effect, the estimate of Beta, the standard error, the Z value, the p value, the decision on the null hypothesis, and the corresponding interpretation.

Label	Path / Effect	Estimate (B)	SE	Z-value	p-value	Decision on H ₀	Interpretation
A	Research Competence → School Management	.536	.079	6.790	.000	Reject H ₀	Significant
B	School Management → Organisational Climate	.478	.039	12.234	.000	Reject H ₀	Significant
c'	Research Competence → Organisational Climate (Direct Effect)	.120	.058	2.063	.039	Reject H ₀	Significant
a × b	Indirect Effect (Mediation)	.256	.043	5.95	.000	Reject H ₀	Significant
c + (a × b)	Research Competence → Organisational Climate (Total Effect)	.376	.072	5.22	.000	Reject H ₀	Significant

Level of Significance: 0.05

Decision Rule: Reject H₀ if $p < 0.05$

Proportion Mediated: indirect effect/ total effect = 0 .680

The table specifically shows that the direct effect of research competence on organisational climate, controlling for school management, was estimated at 0.120. The corresponding p-value of 0.039 is less than the 0.05 level of significance; hence, the null hypothesis was rejected. It indicates that the direct effect of research competence on organisational climate remains significant even when school management is controlled for. In contrast, the indirect effect of research competence on organisational climate through school management was estimated at 0.256 ($p = 0.000$), which is lower than the 0.05 level of significance; thus, the null hypothesis was rejected. It indicates that the indirect effect of research competence on the criterion through the mediator is significant. Lastly, the total effect of research competence on organisational climate was estimated at 0.376 ($p = 0.000$), which is below the 0.05 level of significance; therefore, the null hypothesis was rejected. It indicates that the total effect of research competence on the criterion is significant. Lastly, the table shows that the mediated effect size is 0.680, indicating very strong mediation.

The results show that the determinant variable has a significant direct effect and an indirect effect on the criterion variable through the mediating variable, yielding a significant total effect. Based on these findings, the mediation

is interpreted as partial, as both the direct and indirect pathways are significant, indicating that the mediating variable partially explains the relationship between the determinant and criterion variables.

SUMMARY OF FINDINGS

Based on the statistical results, it was specifically found that:

1. School management and research competence significantly correlate with organisational climate.
2. The direct effect of research competence on organisational climate, controlling for school management, is significant.
3. The indirect effect of research competence on organisational climate, through school management, is significant.
4. The total effect of research competence on organisational climate is significant.

DISCUSSIONS

Discussed in this chapter are the findings of the study. The conclusion and recommendations are also presented.

Research Competence and Organisational Climate Correlation

The finding that research competence has a significant, moderately positive correlation with organisational climate supports the previous study sta, which found that teachers' research engagement contributes to school improvement and fosters a more reflective and collaborative professional environment (Lopez & Bautista, 2023). Moreover, the current finding corroborates with Chen et al. (2024), who emphasised that research competence enhances teachers' ability to implement evidence-based practices, thereby improving the overall organisational climate. On the other hand, this finding contrasts with that of Ibrahim and Hassan (2025), who found that research competence may not directly influence organisational climate when institutional support and leadership structures are weak, suggesting that competence alone may not always translate into improved school environments. Notably, the study by Ibrahim and Ilasan included 120 samples, whereas the current finding was generated from 311 samples.

School Management and Organisational Climate Correlation

The finding that school management has a significantly moderate positive correlation with organisational climate affirms a prior study that found that effective leadership practices, such as transparency, participation, and accountability, significantly enhance the overall school climate and teacher engagement (Garcia & Reyes, 2023). Likewise, this current finding affirms Kim and Lee (2024), who emphasised that strong school governance and participatory management are positively associated with a supportive and collaborative organisational climate, echoing the present study's conclusion that effective management strengthens school environments. On the contrary, this current finding contradicts Rahman et al. (2025), who found that management practices alone do not always guarantee a positive organisational climate, as external pressures and resource limitations may weaken their impact. While Rahman et al. included 180 respondents, the present study included 311.

Research Competence and Organisational Climate as Mediated by School Management

The finding of this study, that school management significantly mediates the relationship between research competence and organisational climate, affirms the study by Santos and Cruz (2023), which highlights that leadership and management processes serve as key mechanisms for translating teacher competencies into improved organisational outcomes. Moreover, the current finding supports the idea that management practices strengthen the impact of teacher capabilities on school climate, as emphasised by Abdullah et al. (2024), who found that instructional leadership significantly mediates the relationship between teacher skills and school

effectiveness. In contrast, the current finding challenges Torres and Mendoza (2025), who found that management does not significantly mediate such relationships in highly centralised school systems, suggesting that structural constraints may limit leadership's mediating role.

CONCLUSION

Based on the findings, research competence (input) indirectly affects the organisational climate (output) through school management (process). Hence, the Systems Theory, positing that input leads to output through an interacting process within the system, was supported.

RECOMMENDATIONS

Based on the conclusion, the following are recommended:

1. Future studies may explore other mediating variables to account for the remaining 0.340 variants in the strength of the mediation on the correlation between research competence and organisational climate, which was not explained by school management.
2. Future researchers may employ longitudinal research designs to better examine causal relationships among research competence, school management, and organisational climate, and to determine how these variables change over time. Such designs may provide stronger evidence regarding the direction and sustainability of the observed effects.
3. Qualitative research may be explored to generate themes that could be considered potential mediators; the emerging sub-themes may be utilised as corresponding indicators of the mediators.
4. School leaders may initiate a research competence enhancement program; however, this initiative may be embedded in school management practices, which may require engaging management in the program to achieve an optimal positive organisational climate.
5. Future research may include participants from diverse educational settings, such as private schools and schools located in different geographic regions, to enhance the generalisability and applicability of the findings across various educational contexts.
6. Researchers may provide more comprehensive evidence of the validity and reliability of the research instruments, including construct validity, content validity, and reliability measures, to further strengthen methodological rigor and increase confidence in the study's findings.