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# The Contribution of School Work Climate and Principal Leadership to Teacher Performance in Junior High Schools: Evidence from a PLS-SEM Model

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ABSTRACT

Teacher performance is central to junior secondary education, but the relative predictive strength of school work climate and principal leadership remains unclear. This study examined the predictive relationships of these two factors with teacher performance and identified the stronger predictor. A quantitative associative-predictive design was applied to 65 teachers from two junior high schools in Godean, Sleman Regency, Special Region of Yogyakarta, Indonesia, during the 2025/2026 academic year. Data were collected using a self-reported 27-item five-point Likert questionnaire and analysed with partial least squares structural equation modelling. All 27 items met the reported loading, convergent validity, discriminant validity, and reliability criteria. School work climate ($\beta = 0.402$, $p < 0.001$, $f^2 = 0.324$) and principal leadership ($\beta = 0.539$, $p < 0.001$, $f^2 = 0.584$) were positively and significantly associated with teacher performance. Together, they explained 51.1 per cent of its variance, with $Q^2 = 0.289$. Principal leadership was the stronger predictor. The findings support strengthening instructional guidance and motivation by principals while maintaining a supportive work climate. Because the data were self-reported and collected at one point in time from two schools, causal inference and broader generalisation are limited.

## 1. INTRODUCTION

Teachers occupy the most strategic position in the effort to raise the quality of junior secondary education because they design, deliver, and evaluate learning on a daily basis. Strong teacher performance is not reflected merely in the completion of administrative duties; it becomes visible when teachers are able to create meaningful learning experiences that measurably improve student achievement (Kurniati et al., 2022). As curriculum reform continues and professional expectations keep rising, improving teacher performance has become a central concern in the management of Indonesian schools (Suanto & Lestari, 2025). Teacher performance, however, is not shaped by individual competence alone. It also grows out of the organisational conditions in which teachers work, and school work climate is one of the most influential of these conditions. A positive climate marked by harmonious professional relationships, open communication, and a supportive working environment encourages teachers to work more effectively and productively (Dwi Angga & Ngurah Wiyasa, 2021). Conversely, anunsupportive climate erodes work motivation and tends to depress both the creativity and the performance of teachers (Mulyati, 2023). A second condition of comparable importance is the leadership of the school principal. Principals are expected to direct, guide, and motivate their teachers so that professional standards are met, and they do so through clear direction, personal example, and continuous coaching (A'yun, 2022). Leadership that is effective and consistently oriented towards quality improvement has been shown to strengthen teacher

performance, particularly within school development programmes (Fauzi et al., 2024). A considerable body of research has established that school work climate and principal leadership are related to teacher performance (Carudin & Khomisan, 2022). Most of these studies, nevertheless, have tested the two predictors separately and in terms of direct effects, so relatively little is known about their relative strength when they are placed in a single predictive model.

The evidence is also inconsistent: several studies report organisational climate rather than leadership as the stronger predictor of teacher performance (Kusumaningrum et al., 2024). These findings establish the relevance of both factors but do not show which predictor is stronger when both are estimated together. The present study addresses this gap by comparing their path coefficients and effect sizes in one predictive model. Preliminary observation in junior high schools in the Godean area points to the same practical concern. Teacher performance still requires improvement, especially in the preparation of lesson plans, the variety of teaching methods, and the consistency of assessment practices. At the same time, the school work climate needs to be reinforced, particularly in the dimensions of teacher empowerment and motivation (Komarudin, 2024). Working conditions that are not yet fully conducive are therefore suspected of constraining the performance that teachers are able to demonstrate in the classroom (Casyariadi Vana Hafizah et al., 2024). Against this background, the present study proposes four hypotheses: school work climate is positively and significantly associated with teacher performance (H1); principal leadership is positively and significantly associated with teacher performance (H2); the two variables jointly explain a significant proportion of the variance in teacher performance (H3); and principal leadership is the more dominant predictor of the two (H4). The hypotheses are tested with a quantitative associative-predictive approach using partial least squares structural equation modelling (PLS-SEM), a technique well suited to evaluating predictive models and to comparing the relative contribution of latent variables (Hair & Alamer, 2022). Such an approach permits a more comprehensive reading of each variable's role than the testing of isolated direct effects allows (Chulaelah & Raharja, 2025). Accordingly, this study pursues three objectives: to analyse the predictive relationships of school work climate and principal leadership with the performance of junior high school teachers in the Godean area, to determine which of the two predictors is dominant, and to build a predictive quantitative model of teacher performance. Its novelty lies in combining a direct comparison of the two predictors with an assessment of the predictive relevance of the resulting model in a local setting, so that the findings can serve as a basis for strengthening both leadership capacity and school work climate (Retnowati et al., 2025). The evidence generated is expected to support ongoing efforts to improve educational quality at the basic and secondary levels (Wijaya et al., 2025).

## 2. METHODS

### Research Design

Because the aim was to estimate how strongly two organisational conditions account for teacher performance, the study was framed as quantitative research of the associative-predictive kind, in which the phenomena of interest are expressed as numerical scores. Three stages structured the work: the questionnaire was developed and validated, responses were gathered from the teachers, and the resulting data were modelled with partial least squares structural equation modelling (PLS-SEM). PLS-SEM was preferred over covariance-based alternatives because it performs reliably with modest samples and, more importantly, it allows the predictive strength of two latent variables to be weighed against each other within a single estimation (Hair & Alamer, 2022).

### Setting and Participants

Fieldwork took place in two junior high schools located in the Godean area of Sleman Regency, Special Region of Yogyakarta, during the 2025/2026 academic year. Both schools operate

under comparable working conditions and similar leadership arrangements, which makes them appropriate settings for weighing the respective roles of work climate and principal leadership. Every teacher on the staff of the two schools took part, giving a total of 65 respondents drawn from a wide range of subject areas and differing in teaching experience, academic qualification, and employment status. Because the whole population was surveyed, a saturated sampling technique (census) was applied.

**Research Instrument**

Three latent variables were modelled: school work climate (X1) and principal leadership (X2) as the exogenous constructs, and teacher performance (Y) as the endogenous construct. Work climate was captured through working relationships, communication, and environmental support (Nuraini Ibrahim, 2021); leadership was captured through the functions of the principal as educator, leader, and motivator (Islahiyah, Ramdan & Mutoharoh, 2025); and performance was captured through the planning, delivery, and assessment of learning (Yumi alamiah, 2021). Responses were obtained with a closed questionnaire of 27 statements answered on a five-point Likert scale, distributed evenly as nine reflective items per construct. Table 1 sets out the blueprint of the instrument.

**Table 1.** Blueprint of the Research Instrument

| Variable | Indicator | Item code | Number of items |
|---|---|---|---|
| School work climate (X1) | Working relationships | X1.1-X1.3 | 3 |
| | Communication | X1.4-X1.6 | 3 |
| | Support from the working environment | X1.7-X1.9 | 3 |
| Principal leadership (X2) | Role as educator | X2.1-X2.3 | 3 |
| | Role as leader | X2.4-X2.6 | 3 |
| | Role as motivator | X2.7-X2.9 | 3 |
| Teacher performance (Y) | Lesson planning | Y.1-Y.3 | 3 |
| | Instructional delivery | Y.4-Y.6 | 3 |
| | Learning assessment | Y.7-Y.9 | 3 |

**Data Analysis Technique**

Estimation was carried out in SmartPLS. The reflective measurement model was judged first: an item was retained once its loading reached 0.70, every construct had to extract at least half of the variance of its items (AVE of 0.50 or above), internal consistency was inspected through Cronbach's alpha and composite reliability, and discriminant validity was examined with the Fornell-Larcker comparison together with the heterotrait-monotrait ratio, for which 0.90 served as the upper limit (Henseler et al., 2015). Attention then moved to the structural model, where collinearity was screened through inner VIF values, significance was obtained by bootstrapping 5,000 subsamples, and explanatory as well as predictive quality were read from $R^2$, $Q^2$, and SRMR. Effect sizes ($f^2$) were interpreted against the benchmarks proposed by Cohen (1988), and the dominant predictor was identified by reading path coefficients and effect sizes side by side

## 3. RESULTS AND DISCUSSION

### RESULTS

None of the 27 items had to be discarded. Every loading exceeded the 0.70 benchmark, the smallest being 0.760 and the largest 0.896, and each of them was significant at $p < 0.001$. Extracted variance surpassed 0.50 in all three constructs, the square root of each AVE was larger than any correlation that construct shared with the others, and both reliability coefficients cleared 0.70 comfortably. Table 2 brings these figures together.

**Table 2.** Results of the Measurement Model Evaluation (Outer Model)

| Construct | Outer loading | AVE | AVE (sq. root) | Cronbach's alpha | Composite reliability | Note |
|---|---|---|---|---|---|---|
| School work climate (X1) | 0.766-0.842 | 0.660 | 0.812 | 0.936 | 0.946 | Valid and reliable |
| Principal leadership (X2) | 0.760-0.896 | 0.690 | 0.831 | 0.944 | 0.952 | Valid and reliable |
| Teacher performance (Y) | 0.798-0.853 | 0.674 | 0.821 | 0.939 | 0.949 | Valid and reliable |

Discriminant validity was confirmed by the HTMT values of all construct pairs, which remained below the 0.90 threshold: 0.185 for X2-X1, 0.499 for Y-X1, and 0.620 for Y-X2. The loading of each individual item, together with its t-statistic, is reported in Table 3.

**Table 3.** Convergent Validity of Individual Items (Outer Loadings)

| Item | Loading | t-stat. | Note | Item | Loading | t-stat. | Note | Item | Loading | t-stat. | Note |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X1.1 | 0.800 | 19.88 | Valid | X2.1 | 0.882 | 28.66 | Valid | Y.1 | 0.798 | 19.71 | Valid |
| X1.2 | 0.766 | 14.10 | Valid | X2.2 | 0.803 | 16.34 | Valid | Y.2 | 0.836 | 19.02 | Valid |
| X1.3 | 0.814 | 17.58 | Valid | X2.3 | 0.882 | 31.03 | Valid | Y.3 | 0.827 | 20.57 | Valid |
| X1.4 | 0.825 | 19.63 | Valid | X2.4 | 0.781 | 13.54 | Valid | Y.4 | 0.811 | 16.90 | Valid |
| X1.5 | 0.842 | 20.53 | Valid | X2.5 | 0.798 | 20.42 | Valid | Y.5 | 0.805 | 17.02 | Valid |
| X1.6 | 0.825 | 20.34 | Valid | X2.6 | 0.844 | 23.41 | Valid | Y.6 | 0.820 | 20.96 | Valid |
| X1.7 | 0.813 | 16.66 | Valid | X2.7 | 0.896 | 26.98 | Valid | Y.7 | 0.799 | 19.14 | Valid |
| X1.8 | 0.836 | 19.13 | Valid | X2.8 | 0.760 | 13.64 | Valid | Y.8 | 0.837 | 21.56 | Valid |
| X1.9 | 0.784 | 15.26 | Valid | X2.9 | 0.818 | 24.27 | Valid | Y.9 | 0.853 | 24.51 | Valid |

Turning to the structural model, an inner VIF of 1.019 indicates that the two predictors share almost no variance, so their coefficients may be read independently of each other. Together they account for 51.1 per cent of the variance in teacher performance, a moderate yet practically meaningful proportion, leaving 48.9 per cent to factors the model does not capture. A $Q^2$ of 0.289 places the model well above the zero threshold for out-of-sample predictive relevance, while an SRMR of 0.078 remains within the acceptable limit of 0.10. In terms of effect size, work climate registered 0.324, close to the boundary of a large effect, whereas leadership reached 0.584, which is unambiguously large. Figure 1 shows positive paths from work climate to teacher performance ($\beta = 0.402$, $t = 5.336$, $p < 0.001$, $f^2 = 0.324$) and from principal leadership to teacher performance ($\beta = 0.539$, $t = 7.434$, $p < 0.001$, $f^2 = 0.584$), together with $R^2 = 0.511$, $Q^2 = 0.289$, SRMR = 0.078, and inner VIF = 1.019.

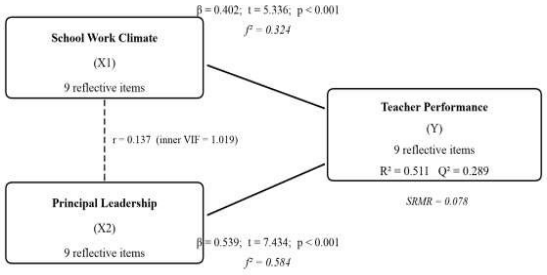



**Figure 1**. Structural model of the contribution of school work climate and principal leadership to teacher performance

**Table 4**. Results of the Hypothesis Testing

| Hypothesis | Path / test | Coefficient or value | t-stat. | p-value | $f^2$ | Decision |
|---|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| H1 | School work climate to teacher performance | 0.402 | 5.336 | < 0.001 | 0.324 | Supported |
| H2 | Principal leadership to teacher performance | 0.539 | 7.434 | < 0.001 | 0.584 | Supported |
| H3 | X1 and X2 to teacher performance (simultaneous) | $R^2 = 0.511$ | - | - | - | Supported |
| H4 | Dominance of the predictors | X2 > X1 | - | - | 0.584 > 0.324 | Supported |

## DISCUSSION

The findings indicate that school work climate is positively and significantly associated with teacher performance. Harmonious working relationships, open channels of communication, and adequate environmental support are consistent with better teacher performance (Setyoningrum & Noor, 2023). In this model, work climate is supported as a relevant predictor; the data do not establish that it causes higher performance or verify additional mechanisms. Principal leadership likewise showed a positive and significant association with teacher performance and proved to be the dominant predictor, with a larger path coefficient and an effect size almost twice that of work climate. The principal's roles as educator, leader, and motivator are the measured dimensions through which this predictive relationship is interpreted (Widodo, 2017). The result indicates stronger statistical prediction by leadership in this sample. It should not be interpreted as proof that leadership is decisive in every school context, and no formal between-school comparison was conducted. The dominance of leadership in this study stands in contrast to research that identifies organisational climate as the stronger predictor of teacher performance (Kusumaningrum et al., 2024). This difference should be interpreted cautiously because the studies may differ in school level, context, measures, and model specification. The explanation that a relatively stable work climate allows differences in leadership practice to emerge more sharply is a possibility, not a finding established by the present analysis. Taken together, the two predictors explain 51.1 per cent of the variance in teacher performance with adequate predictive relevance.

The remaining 48.9 per cent represents factors outside the model and should not be assigned to specific variables without additional analysis. In practical terms, efforts to raise teacher performance should proceed along two tracks: principals can strengthen instructional guidance, professional coaching, recognition of achievement, and continuous motivation, while schools sustain a conducive work climate through clear communication, supportive relationships, and adequate environmental support. Several limitations should be borne in mind when these results are interpreted. The study involved 65 teachers from two schools in a single sub-district, so the findings describe that local context and cannot be generalised to junior high schools more broadly. All data were self-reported and collected at one point in time, which restricts causal inference despite the predictive orientation of the model. Future research could widen the sample across regions, incorporate objective performance indicators such as supervision records or student learning outcomes, and test mediating variables such as work motivation or teacher self-efficacy in order to clarify the mechanisms through which leadership and climate operate.

## 4. CONCLUSION

The PLS-SEM analysis of 65 teachers in two junior high schools in the Godean area indicates that school work climate and principal leadership are both positively and significantly associated with teacher performance. The model explains 51.1 per cent of the variance and demonstrates adequate predictive relevance, with principal leadership the stronger predictor based on its higher

path coefficient and larger effect size. Practical efforts should therefore prioritise instructional guidance, coaching, recognition, and motivation by principals while maintaining a conducive work climate. Because the study was confined to two schools and used self-reported data collected at one point in time, wider replication with additional performance indicators is needed before applying the result to other settings.

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## 6. REFERENCES

A'yun, N. Q. (2022). Pengaruh kepemimpinan kepala sekolah terhadap kinerja guru di sekolah.

Journal of Islamic Education and Innovation, 3(2), 86–96. https://doi.org/10.26555/jiei.v3i2.6607

Carudin, & Khomisan. (2022). Pengaruh Iklim Kerja Guru. Jurnal Ilmiah Pendidik Indonesia, 1(1), 30–37.

Casyariadi Vana Hafizah, Abdul Fattah Nasution, & Lisa Dwi Afri. (2024). Pengaruh Iklim Kerja terhadap Kinerja Guru di MTs Cerdas Murni. Jurnal Bima : Pusat Publikasi Ilmu Pendidikan Bahasa Dan Sastra, 2(4), 64–79. https://doi.org/10.61132/bima.v2i4.1336

Chulaelah, S. Y., & Raharja, S. (2025). The Effect of Principal Leadership and Teacher Competence on Teacher Performance with Learning Management as a Mediating Variable. 54(1), 21–29.

Dwi Angga, I. M., & Ngurah Wiyasa, I. K. (2021). Kontribusi Kepemimpinan Kepala Sekolah dan Iklim Kerja Terhadap Kinerja Guru. Jurnal Pedagogi Dan Pembelajaran, 4(1), 14–22. https://ejournal.undiksha.ac.id/index.php/IJEE

Fauzi, I., Maimun, A., & Yasin, A. F. (2024). Principal Leadership in the "Program Sekolah Penggerak" to Improve Teacher Performance. Al-Tanzim: Jurnal Manajemen Pendidikan Islam, 8(2), 563–579. https://doi.org/10.33650/al-tanzim.v8i2.8267

Hair, J., & Alamer, A. (2022). Research Methods in Applied Linguistics Partial Least Squares Structural Equation Modeling ( PLS-SEM ) in second language and education research : Guidelines using an applied example. 1(May), 1–16.

Islahiyah, Ramdan, A., & Mutoharoh. (2025). Peran Kepemimpinan Transformasional Kepala Sekolah dan Iklim Sekolah yang Kondusif Terhadap Kinerja Guru di Sekolah Islam Terpadu Bina Bangsa Serang. 5(2), 6360–6373.

Komarudin, A. N. (2024). Pengaruh Iklim Organisasi Sekolah Terhadap Motivasi Berprestasi untuk Mewujudkan Kinerja Pembelajaran. J-STAF : Siddiq, Tabligh, Amanah, Fathonah, 1(2), 355–363. https://doi.org/10.62515/staf.v1i2.77

Kurniati, F., Fitria, H., & Wahidy, A. (2022). Teachers' Teaching Quality in Improving Learning Quality. Journal of Social Work and Science Education, 3(2), 97–105. https://doi.org/10.52690/jswse.v3i2.277

Kusumaningrum, D. E., Teguh Triwiyanto, Bambang Budi Wiyono, Raden Bambang Sumarsono, Firda Fitrotul Unsa, Arumia Fairuz Husna, Sasi Maulina, Warapark Maitreephun, Erika Mei

Budiarti, & Suwandi. (2024). The Relationship between Post-Pandemic Organizational Climate and Teacher Performance in Public Elementary Schools. Jurnal Penelitian Dan Pengembangan Pendidikan, 8(3), 470–480. https://doi.org/10.23887/jppp.v8i3.76073

Mulyati, S. (2023). Pengaruh Iklim Sekolah terhadap Kreativitas Guru dan Implikasinya terhadap Kinerja Guru. Jurnal Pendidikan Tambusai, 7(2), 3706–3712.

Nuraini Ibrahim, M. I. (2021). Terhadap Kinerja Guru Kelas Sd Negeri Se- Kecamatan Jangka Kabupaten Bireuen Pendahuluan ( Introduction ) Tinjauan Literatur ( Literature Review ). 2(4), 9–16.

Refinallah, R. P., Setyani, A. D., & Gufron, M. (2026). Kinerja Guru Sebagai Faktor Penentu Mutu Pendidikan : Studi Literatur. 3(1), 1–8.

Retnowati, N. K., Kusumaningsih, W., & Sudana, I. M. (2025). The Influence of Principal Professional Competence on the Quality of Elementary School Education. 54(1), 188–197.

Setyoningrum, M. U., & Noor, M. (2023). Pengaruh Lingkungan Kerja terhadap Kinerja Tenaga Pendidik di SMK Negeri 14 Samarinda. 3(2), 143–159.

Suanto, & Lestari, Y. P. (2025). Implementasi Kinerja Guru Dalam Meningkatkan Mutu Hasil Belajar. Jurnal Pendidikan Kewarganegaraan, 12(1), 42–51. https://doi.org/10.32493/jurnalpkn.v12i1.47301

Widodo, H. (2017). ( Studi Kasus Di SD Muhammadiyah Ambarketawang 3 Gamping Sleman ) Hendro Widodo. Kepala sekolah merupakan manajer sekolah , mempunyai tugas dan tanggung jawab yang besar dalam mengelola sekolahnya. Keberhasilan kepala sekolah dalam mengelo. (9).

Wijaya, A., Yuliejantiningsih, Y., & Haryati, T. (2025). The Influence o f " Guru Penggerak " Competency and the Utilization of Learning Resources on the Quality of Education in Elementary Schools. 54(1), 97–109.

Yudha, S., Muyassar Siregar, A., & Radhwa Marpaung, A. (2024). Pengaruh Kepemimpinan Kepala Sekolah dalam Meningkatkan Kinerja Guru di SMA Swasta Al Azhar Medan. Jurnal Ilmu Manajemen Dan Pendidikan, 4(1), 45–60. https://jurnal.fkip.unmul.ac.id/index.php/impian/article/view/2826

Yumi alamiah, A. P. K. (2021). Jurnal manajer pendidikan. 15(c), 111–118.