

The Relationship Between Academic Supervision, Principal Leadership, and Work Environment on the Performance of Physical Education Teachers

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ABSTRACT: This study aims to analyze the relationship between academic supervision, principal leadership, and work environment on the performance of Physical Education (PE) teachers in public senior high schools in East Jakarta. This study employed a quantitative correlational method with a survey approach. The population consisted of all PE teachers in public senior high schools in East Jakarta, with total sampling applied. Data collection instruments used a Likert scale questionnaire. The data were analyzed using Pearson Product Moment correlation tests and multiple linear regression. The results indicated significant relationships between academic supervision, principal leadership, and work environment with the performance of PE teachers. These findings emphasize the importance of effective work environment management, school principal leadership, and structured academic supervision in improving teacher performance in secondary schools.

KEYWORDS: academic supervision, principal leadership, work environment, performance of Physical Education (PE) teachers

INTRODUCTION

Improving the quality of national education is one of the strategic agendas for developing competitive, independent, and character-driven human resources. One fundamental factor in achieving educational quality is the professionalism and performance of teachers as the main actors in the learning process within educational institutions (Aris et al., 2023). Teachers play a vital role not only in transferring knowledge but also in shaping students' skills, values, and character aligned with national education goals (Munna & Kalam, 2021).

Specifically, within the context of Physical Education, Sports, and Health, the role of teachers becomes even more complex compared to other subjects. PE teachers are responsible not only for the successful delivery of theoretical knowledge but are also required to develop students' psychomotor skills, foster sportsmanship, teamwork, social responsibility, and build students' awareness of the importance of physical fitness and a healthy lifestyle (Umar & Mardesia, 2023). Hence, the performance of PE teachers is crucial in ensuring the success of learning processes, achieving physical education objectives, and fostering positive student attitudes in sports and health.

However, field realities still reveal several issues that potentially hinder the optimization of PE teachers' performance in various schools, including in public senior high schools in East Jakarta. Some common problems include the incomplete preparation of teaching devices, uneven implementation of academic supervision, and a work environment that is not yet fully supportive of effective teaching and learning processes. The irregular implementation of academic supervision, which should serve as a professional coaching instrument for teachers, often remains merely administrative, without continuous development tailored to the professional growth needs of PE teachers.

One of the suspected factors affecting teacher performance is academic supervision. Atiah et al. (2021) argue that academic supervision is a series of coaching activities aimed at helping teachers develop their abilities in managing the learning process, so learning objectives can be achieved effectively. The role of academic supervision is crucial for realizing competent teacher performance and achieving the school's vision and mission (Özgenel & Mert, 2019).

On the other hand, the factor of school principal leadership also holds an important role in determining the work atmosphere, motivation, and teacher performance. As leaders and managers of education, principals must be able to create a positive organizational climate, establish quality learning policies, and encourage professional teacher development through democratic, instructional, or transformational leadership (Palah et al., 2022; Darwis et al., 2023). Unfortunately, variations in the quality of school principal leadership remain an issue, where many principals still tend to act administratively rather than instructionally.

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Teachers' work environment is another determining factor that cannot be overlooked. A safe, comfortable work environment supported by harmonious interpersonal relationships between teachers and principals can create a productive work atmosphere, increase work motivation, reduce work stress, and encourage teachers to perform optimally in carrying out their professional duties (Toropova et al., 2021; Majuarsa, 2021; Masoom, 2021). However, in several schools, limited teaching facilities, ineffective social interactions among teachers, and excessive administrative workloads often affect the productivity of PE teachers.

The research gap in this study arises from the inconsistency of previous research results regarding the factors that influence teacher performance. Based on the results of research conducted by Sumiati et al., (2023), Singerin et al., (2021), Rusdiana et al., (2023), Sunaryo (2020), Wardani et al., (2021) explained that the implementation of academic supervision has a positive impact and significant influence on teacher performance. Different results were shown in Hoque et al.'s research, (2020) that overall, supervision practices did not correlate with teacher performance and attitudes. Research conducted by Suwarno & Hariyadi (2023); Hartiwi et al., (2020); Kanya et al., (2021) concluded that principal leadership has a positive impact and significant influence on teacher performance. Different results were shown in Jumarpati & Dewi's (2023) research that Principal leadership has no significant effect on teacher performance. Research conducted by Kustinayanti & Wiyasa (2021); Putri & Azahra (2023); Mulyaningtyas & Soliha (2023) concluded that the work environment has a positive impact and significant influence on teacher performance. Different results were shown in Nurhayati, et al.'s research (2022) that the work environment has no effect on teacher performance. These contradictory findings indicate that the relationship between these variables is still contextual and needs further research, especially in urban areas such as East Jakarta with relatively complex educational challenges.

Moreover, most previous studies tended to examine only one or two factors independently in influencing teacher performance. Few studies have integrated these three crucial factors—academic supervision, principal leadership, and work environment—simultaneously within a comprehensive research framework. In fact, in school education practice, these factors do not stand alone but interactively form an educational ecosystem that determines teacher work performance.

The novelty of this study lies in its simultaneous approach to analyzing the influence of academic supervision, principal leadership, and work environment on the performance of PE teachers, which has rarely been empirically investigated together, especially in public senior high schools throughout East Jakarta. This study also aims to provide measurable quantitative illustrations regarding the contribution of each factor to teacher performance, which can be used as a basis for developing policies for coaching PE teachers in secondary schools. By examining these three factors simultaneously, this study is expected to provide theoretical contributions in the development of school-based ecosystem management models, as well as practical implications for schools and education offices in designing teacher performance improvement strategies.

METHOD

This study employed a quantitative correlational approach. The population in this study consisted of 79 PE teachers from public senior high schools in East Jakarta. A total sampling technique was applied because the population was fewer than 100 individuals. The instrument used was a 5-point Likert scale questionnaire. The instrument grid for each variable is presented in the following table:

Table 1. Instrument Grid

Variable	Factor	Item
Academic Supervision (X1)	Supervision implementation, professional coaching	20
Principal Leadership (X2)	Instructional leadership, transformational leadership	20
Work Environment (X3)	Physical and Non-physical	20
PE Teacher Performance (Y)	Planning, implementation, learning evaluation	16

All instruments were valid with calculated r values ranging from 0.452 to 0.961, exceeding the r table value of 0.396. Reliability was excellent with Cronbach's Alpha values ranging from 0.954 to 0.983.

The data analysis techniques in this study included descriptive analysis, assumption tests (normality and linearity), and hypothesis testing to address the research problems and examine the relationships among variables. All data analyses were performed using SPSS version 22.0.

RESULT

The results academic supervision, principal leadership, and work environment on the performance of Physical Education (PE) teachers in public senior high schools in East Jakarta:

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Table 2. Descriptive Statistics

Statistic	Academic Supervision	Principal Leadership	Work Environment	Teacher Performance
N	79	79	79	79
Mean	2.82	2.74	2.97	3.09
Standard Deviation	0.33	0.35	0.35	0.29
Minimum	2.13	2.10	2.15	2.25
Maximum	3.50	3.70	3.60	3.75

Table 2 shows that the average value of academic supervision obtained by PJOK teachers in public high schools in East Jakarta City is in the good category with a mean of 2.82 and a standard deviation of 0.33. The minimum value of 2.13 and the maximum of 3.50 indicate that there are no respondents who are in the very poor category.

Table 2 shows that the mean value of principal leadership is 2.74 with a standard deviation of 0.35. The minimum value of 2.10 and the maximum of 3.70 indicate that there are varying perceptions of the quality of leadership in each school.

Based on Table 2, the work environment shows a mean value of 2.97 with a standard deviation of 0.35. The minimum value of 2.15 and a maximum of 3.60 indicates that teachers' perceptions of work environment conditions are in the range of quite good to very good.

The descriptive results of Table 2 show that the mean value of PJOK teacher performance is 3.09 with a standard deviation of 0.29. The minimum value of 2.25 and a maximum of 3.75 indicate that no teacher has performance in the very poor category.

Normality Test

Table 3. Kolmogorov-Smirnov Normality Test

<i>Unstandardized Residual</i>		
N		79
Normal Parameters ^{a,b}	Mean	,0000000
	Std. Deviation	,19589432
Most Extreme Differences	Absolute	,091
	Positive	,054
	Negative	-,091
Test Statistic		,091
Asymp. Sig. (2-tailed)		,161 ^c

Based on analysis using the Kolmogorov-Smirnov test in table 3 shows Asymp. Sig. (2-tailed) 0.161 > 0.05 which means the data is normally distributed and meets the requirements of parametric analysis.

Linearity Test

Table 4. Linearity Test

Variable	Sig. Deviation from Linearity
Academic Supervision → Teacher Performance	0,122
Principal Leadership → Teacher Performance	0,295
Work Environment → Teacher Performance	0,913

Based on table 4, it shows that the relationship between academic supervision, Principal leadership, and work environment on PJOK teacher performance has a p-value > 0.05. So, it can be concluded that the relationship between the independent variable and the dependent variable is declared linear.

Hypothesis Test Results

Table 5. Partial Correlation Test

Variable	r value	Sig.	Description
Academic Supervision	0.650	0.016	Significant
Principal Leadership	0.532	0.016	Significant
Work Environment	0.633	0.000	Significant

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- 1) The academic supervision variable on the performance of PJOK teachers obtained a r count value of $0.650 > r_{table} 0.220$, $sig. 0.016 < 0.05$, then H_0 is rejected, meaning that the hypothesis that reads “There is a significant relationship between academic supervision and the performance of PJOK teachers in public high schools in East Jakarta City” is accepted. The correlation coefficient is positive, meaning that if academic supervision is getting better, the performance of PJOK teachers in public high schools in East Jakarta will be better.
- 2) The principal's leadership variable on the performance of PJOK teachers obtained a r count value of $0.532 > r_{table} 0.220$, $sig. 0.016 < 0.05$, then H_0 is rejected, meaning that the hypothesis that reads “There is a significant relationship between the principal's leadership and the performance of PJOK teachers in public high schools in East Jakarta” is accepted. The correlation coefficient is positive, meaning that if the principal's leadership is getting better, the performance of PJOK teachers in public high schools in East Jakarta will be better.
- 3) The work environment variable on the performance of PJOK teachers obtained a r count value of $0.633 > r_{table} 0.220$, $sig. 0.000 < 0.05$, then H_0 is rejected, meaning that the hypothesis that reads “There is a significant relationship between the work environment and the performance of PJOK teachers in public high schools in East Jakarta” is accepted. The correlation coefficient is positive, meaning that if the work environment is getting better, the performance of PJOK teachers in public high schools in East Jakarta will be better.

Tabel 6. Simultaneous F-Test

ANOVA^b					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	3,725	3	1,242	31,112	,000 ^b
Residual	2,993	75	,040		
Total	6,718	78			

Based on the analysis results in table 6, the F count value is $31.112 > F_{table} (3;75) 2.73$ and $sig. 0,000 < 0,05$. Thus the hypothesis that reads “There is a significant relationship between academic supervision, Principal leadership, and work environment on the performance of PJOK teachers in public high schools in East Jakarta”, is accepted. It can be concluded that the regression model chosen is feasible to test the data and the regression model can be used to predict that academic supervision, Principal leadership, and work environment together relate to the performance of PJOK teachers in public high schools in East Jakarta.

Based on the Coefficient of Determination (R^2), it shows that the Adjusted R Square coefficient of determination is 0.537 . This means that the contribution of academic supervision variables, Principal leadership, and work environment to the performance of PJOK teachers in public high schools in East Jakarta is $0.537 \times 100\% = 53.70\%$, while the remaining 46.30% is influenced by other factors outside this study.

DISCUSSION

Based on the results of this study, it was found that academic supervision, principal leadership, and work environment all had significant relationships—both partial and simultaneous—with the performance of PE teachers in public senior high schools throughout East Jakarta. Together, these three factors contributed 53.70% to variations in teacher performance, while the remaining percentage was influenced by other factors outside the scope of this study. This shows that the success of teachers in carrying out their professional duties is influenced not only by internal factors such as motivation and individual competence but also by external environmental factors such as supervision, leadership, and the school work climate.

First, academic supervision proved to have a significant relationship with PE teacher performance. This finding shows that effective, focused, and professionally guided academic supervision can improve teacher performance, particularly in the areas of lesson planning, implementation, and evaluation. Supervision conducted regularly and constructively helps teachers identify weaknesses in the learning process and provides feedback and solutions for improvement. This is consistent with the findings of Gottschalk & Hopwood (2022), who stated that academic supervision through direct observation, analysis, and reflective feedback is effective in improving teacher performance. Dialogic supervision also impacts teacher work motivation and professional satisfaction. However, in practice, academic supervision in schools often remains administrative and formal, not yet fully functioning as continuous professional development. This research reaffirms the need to improve academic supervision practices in schools.

Second, principal leadership was found to have a significant relationship with PE teacher performance. Principals have a strategic role in shaping a clear educational vision, building a positive school culture, and facilitating teacher professional development.

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Principals who implement instructional leadership are actively involved in supervising learning, providing direction and motivation, and creating a supportive work climate for teachers. This is supported by research from Ahmad & Hamid (2021), which found that instructional leadership contributes significantly to teacher effectiveness and student learning outcomes. Furthermore, transformational leadership that is inspirational and visionary can increase teachers' intrinsic motivation. In this context, the principal's leadership role is crucial because it shapes the school's working environment, manages teacher development programs, and creates conditions that enable PE teachers to develop their competencies and enhance their performance.

Third, the work environment showed the strongest and most significant relationship with PE teacher performance. A work environment that is comfortable, safe, and harmonious, with good interpersonal relationships among colleagues, is essential for creating a productive atmosphere that motivates teachers to work optimally. A conducive work environment increases comfort, reduces psychological stress, and enhances teacher job satisfaction. This finding aligns with research by Anwar, et al. (2022), which showed that a quality work environment is one of the main predictors of teacher performance across educational institutions.

These results reinforce the Input–Process–Output (IPO) theory in educational management, which states that the success of educational processes in schools is influenced by the quality of organizational inputs (such as academic supervision, principal leadership, and the work environment) that determine teacher work processes and produce performance outputs. These three factors are interconnected in building a productive and high-performing school ecosystem.

Theoretically, the findings also strengthen Herzberg's motivation-hygiene theory, which argues that a comfortable work environment, harmonious working relationships, supportive leadership, and good professional development are hygiene factors that, when present, increase job satisfaction and teacher productivity. Conversely, the absence of these factors can lower motivation and performance.

When compared to previous studies, these findings are consistent with the research by Kustinayanti & Wiyasa (2021) and Mulyaningtyas & Soliha (2023), which found that the work environment, academic supervision, and principal leadership significantly influence teacher performance. However, these results differ from those of Nurhayati et al. (2022), who found no significant effect of academic supervision on teacher performance. This discrepancy may be due to differences in regional context, school characteristics, or the intensity of academic supervision in each area.

Thus, this study offers strong evidence that these three factors not only influence performance individually but also have a strong combined effect on PE teacher performance. Therefore, improving the quality of academic supervision, strengthening principal leadership capacity, and enhancing the school work environment should be considered strategic priorities to improve the performance of PE teachers, especially in public senior high schools in East Jakarta.

CONCLUSIONS

Based on the data analysis and discussions, it can be concluded that: (1) Academic supervision has a significant relationship with the performance of PE teachers in public senior high schools in East Jakarta. Supervision that is structured, reflective, and focused on professional development has been proven to improve teacher effectiveness in planning, implementing, and evaluating learning. (2) Principal leadership is significantly related to PE teacher performance. Principals who apply instructional and transformational leadership, and build a collaborative and supportive working atmosphere, positively influence teacher work motivation and productivity. (3) Work environment has the strongest and most significant relationship with PE teacher performance. A safe and comfortable work environment, supported by adequate facilities and harmonious professional relationships, is the dominant factor in improving teacher performance. (4) Simultaneously, academic supervision, principal leadership, and work environment significantly contribute to PE teacher performance, with a total effective contribution of 53.70%, and the work environment providing the largest contribution among the three. (5) This study supports the concept of school-based ecosystem management, which states that teacher performance is not determined by a single factor but is the result of the synergistic interaction between academic supervision, the quality of principal leadership, and the work environment. These findings also affirm the relevance of motivation-hygiene theory and clinical supervision theory in the context of physical education in secondary schools.

REFERENCES

- 1) Ahmad, D. N., & Hamid, S. (2021). An analysis of instructional leadership practices of primary school head-teachers on teacher effectiveness: A qualitative study of teachers' perceptions. *Available at SSRN 5164275*.
- 2) Anwar, M., Khan, T. M., & Jabbar, M. N. (2022). Relationship between working environment and teachers' performance: An Empirical Study. *Global Sociological Review*, 7(2), 63-69.
- 3) Aris, A. A., Murthada, M., Hendra, M., Zainudin, Z., Hartini, H., Malik, M. A., & Firdaus, M. (2023). The role of management of human resources in enhancing the quality of schools. *Innovative: Journal of Social Science Research*, 3(3), 11012-11023.

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- 4) Atiah, N., Fitria, H., & Destiniar, D. (2021). Effect of principal's coaching and supervision toward teacher's performance. *International Journal of Educational Review*, 3(1), 88-93.
- 5) Darwis, M., Rivai, A. M., & Arhas, S. H. (2023). School-based management from the viewpoint of the principal's leadership (Study at State Vocational School 1 Bone). *Technium Soc. Sci. J.*, 50, 503.
- 6) Gottschalk, B., & Hopwood, N. (2022). Professional learning in clinical supervision: Highlighting knowledge work. *Journal of Workplace Learning*, 34(5), 405-417.
- 7) Hartiwi, H., Kozlova, A. Y., & Masitoh, F. (2020). The effect of certified teachers and principal leadership toward teachers' performance. *International Journal of Educational Review*, 2(1), 70-88.
- 8) Hoque, K. E., Bt Kenayathulla, H. B., D/O Subramaniam, M. V., & Islam, R. (2020). Relationships between supervision and teachers' performance and attitude in secondary schools in Malaysia. *Sage Open*, 10(2).
- 9) Jumarpati, J., & Dewi, S. R. K. (2023). Pengaruh kepemimpinan kepala sekolah dan lingkungan kerja terhadap kinerja guru pada UPT SMA Negeri Sekota Palopo. *SEIKO: Journal of Management & Business*, 6(2).
- 10) Kanya, N., Fathoni, A. B., & Ramdani, Z. (2021). Factors affecting teacher performance. *International Journal of Evaluation and Research in Education*, 10(4), 1462-1468.
- 11) Kustinayanti, N. L. N., & Wiyasa, I. K. N. (2021). Korelasi tipe kepemimpinan kepala sekolah dan lingkungan kerja terhadap kinerja guru. *Jurnal Pedagogi Dan Pembelajaran*, 4(1), 179-191.
- 12) Majuarsa, I. (2021). The effect of work environment and individual characteristics on pilot performance with professionalism as an intervening variable. *Management Science Letters*, 11(6), 1855-1860.
- 13) Masoom, M. R. (2021). Teachers' perception of their work environment: Evidence from the primary and secondary schools of Bangladesh. *Education Research International*, 2021(1), 4787558.
- 14) Mulyaningtyas, B., & Soliha, E. (2023). Pengaruh kompensasi dan lingkungan kerja terhadap kinerja guru dengan kepuasan kerja sebagai variabel intervening (Studi pada Yayasan Pendidikan Setiabudhi Semarang). *Jurnal Darma Agung*, 31(1), 677-687.
- 15) Munna, A. S., & Kalam, M. A. (2021). Teaching and learning process to enhance teaching effectiveness: A literature review. *International Journal of Humanities and Innovation (IJHI)*, 4(1), 1-4.
- 16) Nurhayati, E. C., Efendi, B., & Wardani, U. A. (2022). Pengaruh kepemimpinan kepala sekolah, disiplin kerja, motivasi kerja, lingkungan kerja, dan etos kerja terhadap kinerja guru SMA N 1 Mojotengah. *Jamasy: Jurnal Akuntansi, Manajemen Dan Perbankan Syariah*, 2(6), 40-56.
- 17) Özgenel, M., & Mert, P. (2019). The role of teacher performance in school effectiveness. *International Journal of Education Technology and Scientific Researches (IJETSAR)*, 2(1).
- 18) Palah, S., Wasliman, I., Sauri, S., & Gaffar, M. A. (2022). Principal strategic management in improving the quality of education. *International Journal of Educational Research & Social Sciences*, 3(5), 2041-2051.
- 19) Putri, D. N., & Azahra, A. D. (2023). Pengaruh motivasi, disiplin kerja dan lingkungan kerja terhadap kinerja guru. *Journal Of Information Systems And Management (JISMA)*, 2(4), 34-42.
- 20) Rusdiana, R., Harapan, E., & Furkan, N. (2023). Pengaruh supervisi akademik dan profesionalisme guru terhadap kinerja guru SMA se-Kecamatan Lengkiti. *Journal on Education*, 5(3), 6813-6828.
- 21) Singerin, S. (2021). The impact of academic supervision on teacher pedagogical competence and teacher performance: The role moderating by teacher efficacy. *International Journal of Elementary Education*, 5(3), 496-504.
- 22) Sumiati, S., Setyawan, H., Yuanita, P., & Chairilisyah, D. (2022). Pengaruh supervisi kepala sekolah dan motivasi berprestasi terhadap kinerja guru SMA Negeri Sekecamatan Pangkalan Kerinci. *Jurnal JUMPED (Jurnal Manajemen Pendidikan)*, 10(2), 185-197.
- 23) Sunaryo, Y. S. (2020). Academic supervision of school principals and teacher performance: A literature review. *International Journal Pedagogy of Social Studies*, 5(2), 17-34.
- 24) Toropova, A., Myrberg, E., & Johansson, S. (2021). Teacher job satisfaction: the importance of school working conditions and teacher characteristics. *Educational review*, 73(1), 71-97.
- 25) Umar, Y. O., & Mardesia, P. (2023). A Correlational Study: Pedagogical and professional competence of physical education teachers in relation to the implementation of the Merdeka curriculum. *Journal of Physical Education and Sport*, 23(12), 3325-3331.
- 26) Wardani, R. K., Rahmawati, D., & Santosa, H. (2021). The role of academic supervision and communication on teacher performance. *Journal of Education Research and Evaluation*, 5(2), 302-310.