

The Moderating Effect of Extraversion on the Big Five Personality Traits in the Relationship Between Pedagogical Competence and Kindergarten Teacher Performance

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Abstract. This study aims to determine the moderating effect of the Big Five personality domain of extraversion on the relationship between pedagogical competence and teacher performance. The research seeks to examine the contribution of the extraversion variable in the relationship between the independent and dependent variables. The subjects of this study are kindergarten teachers with two years of work experience in Semarang. This research is quantitative in nature, employing a correlational research design. Data collection was conducted through a Google Form questionnaire. The data analysis technique utilized descriptive analysis and fulfilled classical assumption tests, including Normality Test and Hypothesis Test. The results yielded a significance value of 0.000 and a beta value of 0.754 from the correlation test between pedagogical competence and teacher performance, indicating a strong relationship between these variables. After incorporating the moderator variable of extraversion into the correlation, the interaction coefficient obtained was (-0.039), leading to the conclusion that extraversion weakens the relationship between pedagogical competence and teacher performance. Based on these findings, it can be concluded that higher levels of extraversion among teachers may weaken their pedagogical competence, consequently affecting their performance.

Keywords: Big Five Personality, Pedagogical Competence, Teacher Performance

1 Introduction

1.1 Background

Teacher performance reflects the skills in executing their duties and responsibilities as educators. The success of education in schools heavily depends on the quality of teacher performance. Therefore, to fulfill their roles optimally, teachers need to possess competencies and skills that align with educational principles [1]. One of these competencies is pedagogical competence, which is part of professional competence. Meanwhile,

technical skills are often acquired through training or professional development programs.

Teacher competence is one of the primary factors that supports the achievement of optimal performance. With good performance, teachers can create quality learning experiences. Teacher competence encompasses pedagogical, personality, social, and professional competencies. Among these four competencies, pedagogical competence is the most crucial in the learning process, as teachers play a central role in teaching and learning activities. Therefore, the pedagogical competence of teachers becomes a primary focus compared to other competencies [2]. However, it is also possible that other competencies play a significant role in teacher professionalism.

A study indicates that pedagogical competence contributes 21.9% to the performance of teachers in elementary schools. This finding concludes that strong pedagogical competence plays a significant role in enhancing teacher performance in schools. Given the substantial impact of this pedagogical competence, it is essential to pay close attention to it and continuously improve it so that teacher performance continues to improve over time [3].

Individual performance can be influenced by various internal and external factors. One such factor is the personality of each individual, which undoubtedly affects their performance. One of the personality theories commonly associated with an individual's performance is the Big Five personality traits. According to findings by Widhiastuti [4], which tested all items related to the Big Five personality, it was concluded that a strong tendency in each domain of the Big Five significantly influences improvements or enhancements in an individual's performance.

The Big Five personality traits should be considered suitable if used to predict an individual's performance. This aligns with the research by Uhl-Bien et al. (2014), which states that one aspect of the Big Five—conscientiousness—is a strong predictor of performance in many job types. The role of managers (or heads of institutions in the context of education) in understanding employee personalities via Big Five personality traits regarding performance provides potential opportunities for managers to offer support for improvement and enhancement of their employees' performance. Generally, the dimensions of the Big Five and their correlations with teachers' personalities positively correlate with their effectiveness, especially in evaluating instruction. Additionally, emotional stability, extraversion, and meticulousness of teachers have negative relationships with fatigue levels [5].

Teachers with high levels of extraversion tend to be better at managing classrooms, providing support to students, and engaging them in class discussions. Extraverted teachers are also capable of creating and maintaining a positive classroom atmosphere and fostering harmonious relationships with students. According to a meta-analysis conducted by Barrick and Mount [6], a high level of extraversion in individuals is positively correlated with job performance in roles that require a high degree of interpersonal interaction.

Consistently, the domain of extraversion is capable of predicting social outcomes for individuals, where those with high levels of extraversion tend to have higher social status. Another characteristic is the tendency to take on leadership roles within communities and perform well in social contexts. Therefore, extraverted individuals are

likely to experience greater subjective well-being in both frequency and intensity [7]. Differences among individuals can be observed in their tendencies toward extraversion, which manifest as the expression of positive feelings, assertive behavior, decisiveness in thinking, and a desire for social attention [8].

Extraversion plays a significant role in the subjective career success of teachers. This is related to a collectivist culture, where extraverted individuals tend to exhibit active behaviors in their interactions with others, and these behaviors are heavily influenced by their environment. Therefore, it can be concluded that the standards of subjective career success for teachers are a result of meeting the expectations present in their surroundings [9].

Individuals with high levels of extraversion are typically characterized by traits such as enthusiasm, boldness, talkativeness, and high energy. In contrast, individuals with low levels of extraversion are often marked by shyness and a reluctance to explore their surroundings [10]. This tendency is important for every teacher as an attribute in teaching. However, the positive tendencies associated with the domain of extraversion are not without negative aspects. According to findings by Sunartini & Seoharto [11], excessively high levels of extraversion can lead individuals to focus primarily on social interactions and dynamic group activities. This tendency may reduce their focus and attention on implementing teaching practices that align with pedagogical competence.

2 Method

This research is a quantitative study with a correlational design. In this study, hypothesis testing is conducted to obtain empirical evidence through analysis and elaboration of correlations among several variables [12]. Data were collected from kindergarten teachers across 15 districts in Semarang City. The researcher employed purposive sampling to determine the sample for this study. The purpose of using this technique is based on the researcher's consideration that respondents must meet specific criteria previously established by the researcher [13].

The purposive sampling method used is Typical Case Sampling, where each sample must share common characteristics as kindergarten teachers with a minimum of two years of work experience. Additionally, the selected kindergarten teachers must have participated in training related to the Merdeka Curriculum. The criteria specified are: kindergarten teachers with at least two years of work experience and those who have undergone training on the Merdeka Curriculum. Data collection was conducted through questionnaires distributed via Google Form and paper sheets. From this distribution, a total of 263 respondents were obtained.

Table 1. Competence pedagogy Instrument

Aspects		Indicators
Teacher Competence	Pedagogical	1. Understanding student characteristics
		2. Mastery of learning theories and principles
		3. Teacher's ability to develop curriculum and syllabi
		4. Teacher's ability to design the learning

5.	Teacher's ability to implement the learning process
6.	Utilization of technology in the learning process
7.	Teacher's ability to assess the learning process
8.	Teacher's ability to develop student potential

The researcher refers to the indicators from Mulyasa [14], considering their relevance to teacher performance. These indicators were then developed by the researcher into statements related to teachers' pedagogical competence, resulting in a total of 20 statements. After conducting validity and reliability tests, it was found that all 20 items were valid, with a reliability score of 0.933.

Table 2. Teacher Performance Instrument

Aspects	Dimension	Indicator
Teacher Performance	a. Planning Stage	1. Formulating learning objectives based on the curriculum and student characteristics
		2. Organizing teaching materials in a systematic, logical, contextual, and current manner
		3. Designing effective learning activities
		4. Selecting learning resources/tools and media based on learning strategies
	b. Implementing Stage	1. Implementation of effective learning
		2. Mastery of learning material
		3. Practice of effective learning strategies
		4. Utilization of learning resources (teaching media)
		5. Stimulating and maintaining student participation in the learning process
		6. Use of proper and correct language
		7. Concluding teaching and learning activities effectively
	c. Evaluation Stage	1. Development of assessment tools to measure student progress and learning success
		2. Assessment techniques that consider student progress and

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- learning outcomes to achieve the competencies outlined in the lesson plan (RPP)
 - 3. Assessment results to provide feedback on learning progress and to inform the design of teaching materials for subsequent lessons

This research utilizes the indicators formulated by Jeon et al. [15], which analyze teacher performance in three stages. These three stages represent the performance phases of implementing the Merdeka Curriculum, which were developed into 29 statement items. The results indicate that all 29 items are valid, with a reliability score of 0.957.

Table 3. Big Five Personality Traits Extraversion's Domain Instrument

Aspect	Dimension	Indicator
<i>Big five personality traits</i>	<i>Extraversion</i>	<ol style="list-style-type: none"> 1. I am a talkative person. 2. I have a lot of energy/enthusiasm. 3. I often feel enthusiastic and radiate enthusiasm. 4. I tend to be quiet. 5. I have a strong personality. 6. I can sometimes be shy and hesitant. 7. I find it easy to socialize with others.

The indicators of extraversion are derived from the theory of John and Srivastava [16], which were then translated into Indonesian and validated by Ramdhani [17], consisting of 7 items with a reliability score of 0.670. The quantitative data analysis in this study employs descriptive analysis while fulfilling classical assumption tests, which include Normality Test, Multicollinearity Test, Heteroscedasticity Test, and Hypothesis Test.

3 Result and Discussion

3.1 Result

The research results encompass descriptive analysis findings and the outcomes of classical assumption tests, namely the Normality Test and Hypothesis Test. The purpose of hypothesis testing is to address the research problem formulation. Below are the statistical data analysis results presented in a table.

Table 4. Descriptive Data Analysis Results

Variable	N	Mean	Median	Minimal	Maximal	Standart Deviation	%
Pedagogical Competence Kindergarten	263	84,825	85	20	100	7,322	85%
Teacher's Performance	263	123,487	124	29	145	10,787	85%
Extraversion	263	27,323	27	16	35	3,294	78%

Pedagogical Competence (X)

Teacher pedagogical competence consists of 8 indicators with 20 statement items. Based on the respondents' answers, the results show a lowest score of 20 and a highest score of 100. The data analysis reveals an average score of 84.825, a median of 85, and a standard deviation of 7.322. Overall, the level of achievement in teachers' pedagogical competence is 85%, which falls into the "very good" category. This indicates that the pedagogical competence possessed by kindergarten teachers has been met and achieved.

Kindergarten Teacher's Performance (Y)

Teacher performance consists of 14 indicators with 29 statement items. Based on the respondents' answers, the results show a lowest score of 29 and a highest score of 145. The data analysis reveals an average score of 123.487, a median of 124, and a standard deviation of 10.787. Overall, the level of achievement in kindergarten teacher performance is 85%, which falls into the "very good" category. This indicates that the majority of kindergarten teachers have demonstrated effective performance.

Extraversion (Z)

Extraversion consists of 7 indicators and statements. Based on the respondents' answers, the results show a lowest score of 16 and a highest score of 35. The data analysis reveals an average score of 27.323, a median of 27, and a standard deviation of 3.294. Overall, the tendency for extraversion among teachers is at a percentage of 78%, which falls into the "high" category

Table 5. Normality Test Results

Variable	Sample Total	Kolmogorov Smirnov-Z (KS)	Sig	Description
Pedagogical Competence Kindergarten	263	0,133	0,001	Normal
Teacher's Performance	263	0,149	0,001	Normal
Extraversion	263	0,084	0,001	Normal

Based on the Kolmogorov-Smirnov Z (KS) test, the p-value for the three variables is greater than 0.05, indicating that the data is normally distributed. Subsequently, multiple linear regression analysis was conducted.

Table 6. Multiple Regression Test Results

Model		Unstandarized Coeffisien		Standarize	t	Sig.
		B	Std. Error	d Coeffisien		
1	(constant)	14.575	4.677		3.117	0.002
	Pedagogical Compe- tence	1.110	0.055	0.754	20.182	0.000
	<i>Extraversion</i>	0.540	0.122	0.165	4.415	0.000

a. Dependent Variable: Teachers Performance

The significance value for pedagogical competence is 0.000 (< 0.05), indicating that this effect is significant, meaning that pedagogical competence has a substantial impact on teacher performance. Additionally, the Beta value is relatively high (0.754), suggesting that pedagogical competence is a strong factor in enhancing teacher performance. The significance value for extraversion is also 0.000 (< 0.05), indicating that this effect is significant as well. However, the Beta value for extraversion is 0.165, which is lower than that of pedagogical competence, indicating that although extraversion has a significant influence, its strength on teacher performance is not as pronounced as that of pedagogical competence.

Table 7. Moderate Test Results

Model		Unstandarized Coeffisien		Standarized Coeffisien	t	Sig.
		B	Std. Error	Beta		
1	(constant)	-61.964	17.905		-3.461	.001
	Pedagogical Competence	2.017	.212	1.369	9.513	.000
	<i>Extraversion</i>	3.813	.750	1.165	5.082	.000
	Competence <i>Pedagogic*Extraversion</i>	-.039	.009	-1.357	-4.418	.000

a. Dependent Variable: Teacher Performance

The negative interaction coefficient (-0.039) indicates that the effect of pedagogical competence on teacher performance diminishes as the level of extraversion increases. In other words, the higher the level of extraversion of a teacher, the smaller the positive impact of pedagogical competence on their performance, although this effect remains significant ($p < 0.001$).

3.2 Discussion

This study aims to examine the moderating effect of the Big Five personality trait domain of extraversion on the relationship between pedagogical competence and the performance of kindergarten teachers. Based on the moderation regression test (interaction test), the results indicate a significant and negative coefficient between the dependent and independent variables, suggesting that the presence of the moderator variable, extraversion, weakens the relationship between pedagogical competence and teacher performance.

The tendency for extraversion among teachers is evident in their interactions and communication with students, as well as in classroom management. The findings of this study suggest that teachers with high levels of extraversion tend to focus more on social interactions than on the systematic teaching aligned with pedagogical competence. This aligns with the findings of Sunartini & Seoharto [11], which state that excessively high levels of extraversion can lead individuals to prioritize social interactions and dynamic group activities, potentially reducing their focus and attention on implementing teaching practices consistent with pedagogical competence.

These results are also consistent with Wilt et al. [8], who noted that extraverted teachers have a high tendency to seek social attention. Consequently, a high level of extraversion in teachers may indicate a tendency to engage in behaviors aimed at meeting social expectations, thereby prioritizing communication and interaction over focusing on pedagogical competence to optimize teacher performance.

From the interaction test results, a negative coefficient value (-0.039) indicates a decrease in the effectiveness of the pedagogical competence variable as the level of extraversion increases. The influence of pedagogical competence on performance certainly varies among teachers, particularly influenced by individual levels of extraversion. The coefficient results suggest that teachers with high levels of extraversion may struggle to optimally apply pedagogical competence, thus affecting their effectiveness. The obtained p-value of < 0.001 indicates that this significance between variables is substantial and not due to chance. This means that the role of extraversion as a moderator variable contributes significantly to the relationship between pedagogical competence and teacher performance.

The tendency to focus on social interactions leads teachers to be less diligent in preparing lessons or planning activities meticulously, as they enjoy direct interactions with students more. This situation also complicates classroom management, such as addressing student behavior, as they tend to prioritize casual conversations with students over maintaining classroom order. These findings contrast with Buric et al. [5], who stated that high levels of extraversion in teachers can foster a desire to interact and engage socially with students, enabling them to manage undesirable behaviors in class, offer support and assistance, or express enthusiasm while teaching.

High levels of extraversion in teachers may also result in a lack of attention to detail. Lesson planning should consider every small yet important detail, such as selecting appropriate teaching methods or effective media usage. However, there is a possibility that teachers may be less meticulous when providing feedback to students because they focus more on social aspects than on students' academic development.

Teachers should be able to adapt their teaching styles to meet each student's needs; however, those with high levels of extraversion may struggle with classroom management because they tend to implement active and collaborative learning without applying flexibility to accommodate students who have more introverted or visual learning styles.

Intense social interaction can lead teachers to experience emotional exhaustion. This can negatively impact their teaching quality in the long term. Depleted energy will make it difficult for teachers to maintain and develop motivation necessary for sustaining their pedagogical competence. This finding aligns with Gonzales [18], who noted that extroverted individuals often face challenges in adjusting to others, trying new things, being argumentative, and managing time effectively—all factors that can drain one's energy.

Given these conditions, teachers with high levels of extraversion need to learn how to balance their communication tendencies with the demands for preparing higher-quality lessons. Teachers must continuously develop their pedagogical competencies, including classroom management skills, providing effective feedback, and adapting to various learning styles. While extraversion has many advantages, it is crucial to recognize that strengths in one area can become weaknesses in another aspect. By understanding both the strengths and weaknesses associated with an extroverted personality, teachers can optimize their performance more effectively. This finding is consistent with Macovei et al. [19], which states that higher levels of teacher extraversion correlate positively with feelings of success and professional achievement.

4 Conclusion

This study indicates that pedagogical competence positively contributes to teacher performance. However, extraversion traits can weaken the relationship between pedagogical competence and performance. The implication is that educational institutions need to consider personality characteristics when designing professional development programs for teachers to optimize performance.

References

- [1] N. K. Kartika and D. P. Ambara, "Kompetensi Kepribadian dan Motivasi Mengajar Berpengaruh Terhadap Kinerja Guru PAUD," *J. Pendidik. Anak Usia Dini Undiksha*, vol. 9, no. 3, p. 381, 2021, doi: 10.23887/paud.v9i3.39952.
- [2] I. A. K. Y. B. Witari and I. B. S. Manuaba, "Correlation Between Pedagogical Competence and Personality to Teacher Performance," in *Proceedings of the 2nd International Conference on Technology and Educational Science (ICTES 2020)*, 2021, vol. 540, pp. 405–412, doi: 10.2991/assehr.k.210407.272.
- [3] N. Novebri, K. Rukun, and A. Sabandi, "Relationship between pedagogical competence and teacher performance in public elementary school," in *International Conferences on Educational, Social Sciences and Technology*, 2018, pp. 966–972, doi: 10.29210/20181139.

- [4] H. Widhiastuti, "Big Five Personality sebagai Prediktor Kreativitas dalam Meningkatkan Kinerja Anggota Dewan," *J. Psikol.*, vol. 41, no. 1, p. 115, 2014, doi: 10.22146/jpsi.6962.
- [5] I. Burić, A. Butković, and L. E. Kim, "Teacher personality domains and facets: Their unique associations with student-ratings of teaching quality and teacher enthusiasm," *Learn. Instr.*, vol. 88, pp. 1–15, 2023, doi: 10.1016/j.learninstruc.2023.101827.
- [6] M. R. BARRICK and M. K. MOUNT, "the Big Five Personality Dimensions and Job Performance: a Meta-Analysis," *Pers. Psychol.*, vol. 44, no. 1, pp. 1–26, 1991, doi: 10.1111/j.1744-6570.1991.tb00688.x.
- [7] C. J. Soto, "Big five personality traits," in *The SAGE encyclopedia of lifespan human development*, M. H. Bornstein, M. E. Arterberry, K. L. Fingerma, and J. E. Lansford, Eds. Thousand Oaks, CA: Sage, 2018, pp. 240–241.
- [8] J. Wilt and W. Revelle, "Extraversion," in *The Oxford handbook of the Five-Factor Model*, T. A. Widiger, Ed. New York: Oxford, 2017, pp. 57–81.
- [9] T. M. Ingarianti, F. Suhariadi, F. Fajrianti, D. Lutfia, and D. Andriany, "The role of big five personality dimensions in Indonesian teachers' subjective career success," *Int. J. Eval. Res. Educ.*, vol. 12, no. 3, pp. 1299–1306, 2023, doi: 10.11591/ijere.v12i3.25158.
- [10] H. J. Kell, "Do Teachers' Personality Traits Predict Their Performance? A Comprehensive Review of the Empirical Literature From 1990 to 2018," *ETS Res. Rep. Ser.*, vol. 2019, no. 1, pp. 1–27, 2019, doi: 10.1002/ets2.12241.
- [11] F. V. Sunartini and T. N. E. Dewayani Socharto, "Hubungan Antara Kompetensi Pedagogik Dan Kinerja Guru Di Kecamatan Girimulyo Kabupaten Kulon Progo," *Humanika*, vol. 16, no. 1, pp. 22–32, 2016, doi: 10.21831/hum.v16i1.12070.
- [12] A. Wahyudin, *Metodologi Penelitian: Penelitian Bisnis & Pendidikan*, 1st ed. Unnes Press, 2015.
- [13] K. Abdullah, *Metode Penelitian Kuantitatif*. Aceh: Muhammad Zaini, 2021.
- [14] E. Mulyasa, *Menjadi Guru Profesional*. Bandung: Rosdakarya, 2008.
- [15] S. Joen, *Kinerja Guru, Pendekatan Kepemimpinan Transformasional Kepala Sekolah dan Motivasi Kerja Guru*. Sulawesi: Tim Kreatif Magama, 2022.
- [16] O. P. John, L. P. Naumann, and C. J. Soto, "Paradigm shift to the integrative Big Five Trait taxonomy: History, measurement, and conceptual issues," *Handb. Personal. Theory Res.*, vol. 3, no. 2, pp. 114–158, 2008.
- [17] N. Ramdhani, "Adaptasi Bahasa dan Budaya Inventori Big Five," *J. Psikol.*, vol. 39, no. 2, pp. 189–207, 2012.
- [18] J. V Gonzales and M. J. D. Rosales, "Big Five Personality Traits and its Relationship to Teachers' Performance Evaluation in the Public High Schools," *J. Nat. Soc. Sci.*, vol. 11, no. 1, pp. 93–104, 2022.
- [19] C. M. Macovei, Ștefania Bumbuc, and F. Martinescu-Bădălan, "Personality traits, role ambiguity, and relational competence as predictors for teacher subjective wellbeing," *Front. Psychol.*, vol. 13, no. 1106892, 2023, doi: 10.3389/fpsyg.2022.1106892.