



The Effect of Pedagogic Competence and Work Environment on Teacher Work Behaviour in Serang Regency with Loyalty as a Mediating Variable

Anisa Fauziyah^{1*}, Yayat Ruhiat¹, M. Syadeli Hanafi¹, Cucu Atikah¹

¹ Magister Teknologi Pendidikan, Pascasarjana Universitas Sultan Ageng Tirtayasa, Serang Banten, Indonesia.

Received: September 29, 2024

Revised: December 12, 2024

Accepted: February 25, 2025

Published: February 28, 2025

Corresponding Author:

Anisa Fauziyah

7772230023@untirta.ac.id

DOI: [10.29303/jppipa.v11i2.10001](https://doi.org/10.29303/jppipa.v11i2.10001)

© 2025 The Authors. This open access article is distributed under a (CC-BY License)



Abstract: The study aims to describe the influence of pedagogic competence, work environment on teacher work behaviour with loyalty as mediation in SMPN Serang Regency Region I. The research used an explanatory method with a quantitative approach. The instrument used a closed questionnaire on 210 respondents using random sampling technique. The study used path analysis techniques to test the effect of independent variables on the dependent variable using *lisrel*. The results showed that: there is a significant positive direct effect of pedagogic competence on work behaviour with a path coefficient of 0.305, ρ value 0.00. The work environment on work behaviour has a significant positive direct effect with a coefficient of 0.50, ρ value 0.00. Loyalty to teacher work behaviour has a significant positive direct effect with a path coefficient of 0.107, ρ value 0.047. Simultaneously, it has a positive direct impact on work behaviour by 69.2%. Pedagogic competence on work behaviour through loyalty has an indirect effect but does not have a mediating effect, the *sobel t* value is 1.791. Similarly, the work environment on work behaviour through loyalty has an indirect effect but does not have a mediating effect with a *sobel t* value of 1.904.

Keywords: Loyalty; Pedagogical competence; Work behaviour; Work environment

Introduction

Schools as educational institutions have a role in shaping quality and competitive human resources. Teachers as agents of reform as well as the main drivers in the learning process have an important role, so the behaviour of teachers as educators plays a role in improving the quality of education. The integration of 21st century technology and skills requires teachers to adapt in work behaviour (Herut, 2024).

Teachers put up their best effort to provide students the finest outcomes. According to Nugroho (2021), teachers are considered competent if they can create an environment that is both productive and enjoyable while

still managing the class as best they can. Social, personal, professional, and pedagogical competences are the four areas that educators need to master in accordance with Law of the Republic of Indonesia Number 14 of 2005. Pedagogic competence refers to the teacher's capacity to control students' learning. In some schools, there are still gaps in teacher behaviour. This causes the need for special attention to teacher work behaviour. Alamsyah et al. (2023) stated that there are teachers who do not have discipline in both teaching time and teaching methods, performing tasks only to fulfil obligations and teachers do not have innovation or concern for student development. As an educator, teachers should have the awareness to always progress towards a better direction.

How to Cite:

Fauziyah, A., Ruhiat, Y., Hanafi, M. S., & Atikah, C. (2025). The Effect of Pedagogic Competence and Work Environment on Teacher Work Behaviour in Serang Regency with Loyalty as a Mediating Variable. *Jurnal Penelitian Pendidikan IPA*, 11(2), 1103-1113. <https://doi.org/10.29303/jppipa.v11i2.10001>

Teachers as educators need to have pedagogical competencies including mastery of learning, good personality, and behaviour that can be an example for students. According to Afridezi et al. (2021) the success of education in schools is greatly influenced by the behaviour of teachers at work. Teachers who work well show responsibility and positive attitudes towards their work, such as discipline and diligence in maintaining the quality of their work. However, problems regarding work behaviour include Many workers leave the workplace for a long time even though there is no urgent need, and some deliberately leave work and come back in at office hours (Arum Dani et al., 2023).

The results of the Teacher Competency Test (UKG) show that from 2015 to 2021, 81% of teachers in Indonesia did not reach the teacher competency standards (Budhiarto, 2024). In addition, Supriyono (2017) findings show that some teachers have not been able to prepare learning and assessment tools properly, as well as a lack of discipline in school attendance. This shows that pedagogical competence has not been mastered to the fullest. Mastery of pedagogic competence can be seen from the attitude of teachers carrying out their work to achieve educational standards. Hasbi et al. (2021), stated that pedagogic competence contributed 36.4% so that teachers as educators must pursue their work by mastering pedagogic competence because it is a crucial factor and has a role and responsibility in the learning process in the classroom.

In addition to pedagogical competence, teacher work behaviour can be influenced by environmental factors. The environment is all components that interact and influence each other. According to Rahmawati et al. (2020) the work environment includes everything that surrounds employees while working which can affect performance and the implementation of their daily tasks.

For the educational process in schools to be as well-established as possible, the work environment plays a significant role in enhancing work passion and behavior. An unsupportive work environment, such as a lack of lighting in the workspace, makes employees' eyes tired, and the production location adjacent to the office causes noise during the production process to interfere with employee performance (Albasari & Adiwati, 2023). Manik et al. (2018) found that the work environment significantly impacts elementary school teacher performance, with a correlation of 37.9%. However, Maya Sari, (2013) reported that the work environment has an insignificant and negative effect on teacher performance. These differing findings suggest that the influence of the work environment on teachers varies,

highlighting the need to consider regional and school specific contexts when assessing its impact.

A conducive work environment can support the smooth implementation of tasks and provide a sense of security, comfort for teachers when working so that it can foster loyalty to the place of work (Almeyda & Gulo, 2022). Loyalty is a commitment for teachers to the institution where they work. Loyalty has an important role in maintaining the stability and quality of education. Teachers who have loyalty will work regularly, play an active role in various school activities that not only improve teacher competence but can provide positive behaviour in students (Maya et al., 2024).

Teachers who have loyalty to their work can affect the behaviour of teachers in carrying out their daily tasks. If a teacher has high job loyalty, he will carry out his roles and responsibilities as an educator and teacher with full responsibility and high dedication (Widayati et al., 2020). The unclear status of teachers, low income for honorary teachers who do not meet the minimum wage, causes teachers to be reluctant to carry out their duties, often skip class, and ask for unclear permits, as well as cause feelings of indifference towards students and colleagues, which is shown by an indifferent attitude towards the class and process (Sampe & Ellis, 2023). Therefore, there needs to be an effort to increase teacher loyalty through commitments that encourage emotional attachment to the school, so that they take responsibility for achieving institutional goals (Widayati et al., 2020).

The state of loyalty fosters a bond between workers and their organizations. A person's level of loyalty is not just determined by how long they work; it also depends on how much of their thoughts, ideas, and performance are focused on the school. Sitompul et al., (2022) stated that loyalty has a positive effect on the performance of junior high school teachers by 63.1%. This indicates that increasing teacher loyalty to schools can be an effective strategy in improving the emotional connection between teachers and institutions, schools can encourage teachers to be more committed, dedicated, and work professionally for the advancement of education.

Employee Performance Targets (SKP) are expectations of teachers' work behaviour. Work behaviour is an understanding of the actions and behaviour of each individual (teacher) in accordance with the values espoused by an organisation. This can be seen in the way each individual interacts in carrying out their roles and responsibilities within an organisation and establishing good relationships outside the organisational environment. Understanding organisational work behaviour has an important role in predicting and relying on the behaviour of each

member, so that the organisation can run effectively (Fatmawati, 2022).

Based on observations at SMPN 1 Pontang, it is known that evaluation is carried out by assessing teacher performance and work behaviour according to employee performance targets. Teachers' work behaviour has not been the main focus in efforts to improve learning in schools, and there is still little research on work behaviour, which is actually as important as teacher performance. So that this causes gaps and various kinds of challenges faced, including some teachers showing work behaviour that is not optimal, reflected in less responsible and disciplined behaviour in carrying out learning, limited understanding of the characteristics of students as a whole and limitations in dealing with the dynamics of learning in the classroom. The lack of facilities in the school environment hinders teachers in developing learning innovations and the lack of communication between teachers and principals makes it difficult to build a conducive and collaborative environment. In addition, teacher loyalty is affected by excessive workload without adequate support. Teachers' low incomes cause them to work in other agencies, leading to a lack of responsibility for school work.

To enhance teacher work behavior, this study investigates the direct impact of pedagogical competence on teacher work behavior, the direct effect of the work environment on teacher work behavior, the direct influence of loyalty on teacher work behavior, the role of loyalty as a mediator in the relationship between pedagogical competence and teacher work behavior, and the impact of the work environment on teacher work behavior through loyalty as mediation at SMPN Serang Regency Region I. So that this research not only contributes to scientific literature, but provides concrete input for the development of education in SMPN Serang Regency I. So that this research not only contributes to scientific literature, but provides concrete input for the development of education in SMPN Serang Regency Region I.

Method

The study employs an explanatory, quantitative approach. Explaining the cause and impact of research on the relationship between independent and dependent variables is the goal of explanatory research. There were 615 public junior high school (SMPN) teachers in Serang Regency Region I that made up the research population. The 10% Slovin recipe was used to the research sample. Then, 210 respondents made up the research sample.

A questionnaire was employed as part of the research data gathering method. Sugiyono (2020), states that a questionnaire is a technique for gathering data in which participants are provided with a set of written statements to complete. The study included a variety of measures, including questionnaires on work behaviour, loyalty, work environment, and pedagogical competency. Indicators for every variable are used to create questionnaires. A Likert scale with the following criteria was utilised for the study's measurements.

Table 1. Likert Scale (Ruhiat et al., 2023)

Statement	Answer with a positive score
Completely Agree	5
Agree	4
Neutral	3
Disagree	2
Completely Disagree	1

A legitimate instrument must first undergo validity and reliability testing in order for the questionnaire to collect correct data and make conclusions that are consistent with reality. 30 respondents from the other sample were subjected to validity and reliability testing. Additionally, the tests for normality, linearity, multicollinearity, and homoscedasticity the prerequisites for the research were conducted. Path analysis, the Sobel test, the T test, and the F test were then used to examine the data.

Two independent variables (X_1 and X_2), one dependent variable (Y), and one mediating variable (Z) are used in the study. These variables have the ability to influence how strongly or weakly the variables are related to one another. The study employs a more intricate path diagram as it incorporates more factors, allowing for the analysis of several pathways, such as:

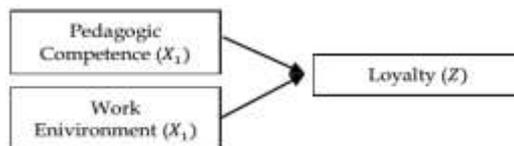


Figure 1. Path analysis sub I

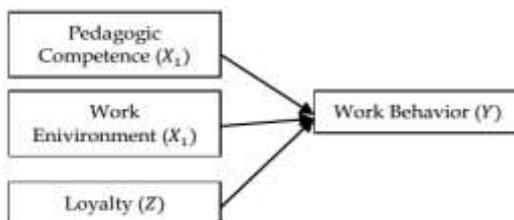


Figure 2. Path analysis sub II

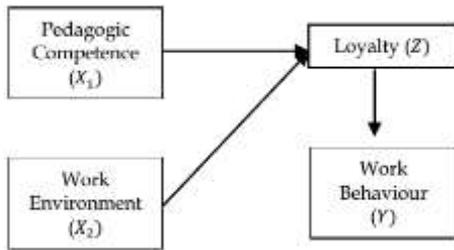


Figure 3. Path analysis sub III

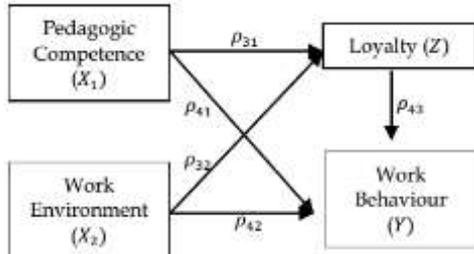


Figure 4. Constellation of research

The path coefficient in the study is:

$$X_1 = e_1 \text{ and } X_2 = e_2$$

$$Z = \rho_{31} + \rho_{32} + e_3$$

$$Y = \rho_{41}X_1 + \rho_{42}X_2 + \rho_{43}Z + e_4$$

Result and Discussion

Result

The research results were obtained based on respondents' responses to various statements in the research questionnaire. The data has been subjected to prerequisite tests first. Research on 210 respondents resulted in the path coefficient in Figure 5.

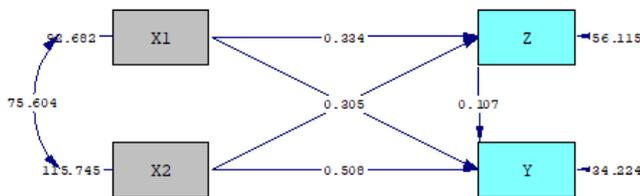


Figure 5. Path coefficient results using lisrel

Hypothesis Testing Criteria:

$$H_0 : \rho \leq 0$$

$$H_1 : \rho > 0$$

H_0 = Rejected (then there is a significant effect)

$$t_{count} > t_{table} \text{ atau } \rho_{value} < 0.05$$

H_0 = accepted (then there is no significant effect)

$$t_{count} < t_{table} \text{ atau } \rho_{value} > 0.05$$

Path Analysis Sub I

The results of Sub I Path Analysis is shown in Table 2.

Table 2. Path Coefficient Sub I

Variable	Estimates	Standar Error	Z value	P-Values	R-Square
$X_1 \rightarrow Z$	0.33	0.078	4.23	0.00	0.53
$X_2 \rightarrow Z$	0.49	0.070	7.06	0.00	0.53

Table 2 indicates that the route coefficient X_1 is 0.33 with a ρ -value of $0.00 < 0.05$ (α value), indicating that loyalty (Z) is positively impacted by pedagogic ability. A positive direct influence of the work environment on loyalty (Z) is shown by the path coefficient X_2 of 0.49 and the ρ -value of $0.00 < 0.05$ (α value).

Path Analysis Sub II

The results of Sub II Path Analysis can be seen in table 3.

Table 3. Path Coefficient Sub II

Variable	Estimates	Standar Error	Z value	P-Values	R-Square
$X_1 \rightarrow Y$	0.30	0.064	4.74	0.00	0.69
$X_2 \rightarrow Y$	0.50	0.061	8.26	0.00	0.69
$Z \rightarrow Y$	0.10	0.054	1.98	0.04	0.69

Table 3 indicates that there is a positive direct influence of pedagogical competence on work behaviour (Y), with the path coefficient on pedagogical competence X_1 being 0.30 and the ρ -value $0.00 < 0.05$ (α value). The path coefficient in work environment X_2 is 0.50, and the ρ -value is $0.00 < 0.05$ (α value). This indicates that work behaviour (Y) is positively influenced by the work environment. With a ρ -value of $0.04 > 0.05$ (α value) and a Loyalty (Z) path coefficient of 0.10, it is evident that work behaviour (Y) is positively impacted by loyalty.

Indirect Path Analysis

Indirect Path Analysis results using the sobel test. The Sobel Test is considered significant if the statistical t value obtained is greater than 1.97. This means that if the Sobel Test value exceeds the t table, the variable can act as a mediation between the independent and dependent variables. The value of 1.97 refers to the number in the t table with infinite degrees of freedom, using a confidence level of 5% or 0.05, and a two-way test (Sugiyono, 2020). Table 4 displays the results of the Sobel test.

Table 4. Test Results of Indirect Influence (Sobel Test)

Variable	Estimates	T Sobel	Desc
$X_1 \rightarrow Z \rightarrow Y$	0.03	1.79	< 1.97
$X_2 \rightarrow Z \rightarrow Y$	0.05	1.90	< 1.97

According Table 4 the route coefficient on X_1 through Z is 0.036, indicating that Work Behaviour (Y) is indirectly impacted. The sobel t value on X_1 through Z is $1.79 < 1.97$, meaning that $t_{count} < t_{table}$ so it is known that Pedagogical Competence has an indirect effect on

work behaviour through Loyalty but there is no mediating effect.

The path coefficient on X_2 through Z is 0.053, has an indirect influence on Work Behaviour (Y). There is no mediation impact on work behaviour, but the work environment through loyalty has an indirect affect, according to the sobel t value on X_2 through Z , which is $1.90 < 1.97$.

T Test (Partially)

The significance of the independent variable's partial impact on the dependent variable is measured by the t test. At a significance level of 5% (0.05), the t test is performed by comparing the t_{count} value with the t_{table} value.

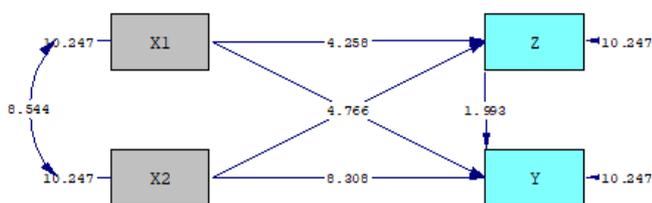


Figure 6. Test results t values

The t value of pedagogical competence on loyalty is $4.25 > 1.97$ in Figure 6, which indicates that $t_{count} > t_{table}$, indicating that pedagogical competence significantly affects loyalty. According to the work environment variable's t value of $4.76 > 1.97$, loyalty is significantly impacted by the work environment.

Pedagogical competence has a strong impact on work behaviour, as indicated by its t value of $4.766 > 1.972$. The work environment has a significant impact on work behaviour, as indicated by the t value of $8.308 > 1.972$. However, loyalty's t value is $1.993 > 1.972$, indicating that it significantly affects work behaviour.

F Test (Simultaneous Test)

Use the F test or simultaneous test to determine the degree of significance of the impact of independent factors on dependent variables.

Table 5. Results of F Test Sub I

Regression d.f	Residual d.f.	F
13471.049 2	11727.948 207	118.88

The F value in Table 5 is $118.88 > 2.648$, indicating that $F_{count} > F_{table}$, indicating that work environment and pedagogical competence affect loyalty.

Table 6. Results of F Test Sub II

Regression d.f	Residual d.f.	F
16055.670 3	7152.822 206	154.13

The F value in Table 6 is $154.13 > 2.648$, indicating that $F_{count} > F_{table}$, indicating that work behaviour is influenced by Pedagogical Competence, Work Environment, and Loyalty.

Determination Test (R^2) or R-Square

The coefficient of determination, or R square, for Pedagogical Competence and Work Environment is 0.535, according to Table 2. This finding indicates that 53.5% of loyalty may be explained by the effect or contribution of pedagogical competence and work environment. The influence of other factors not covered in the study accounts for the remaining 46.5%. The value of e_3 is found to be:

$$e_3 = \sqrt{1 - 0.53} = \sqrt{0.46} = 0,68$$

Pedagogic competence, work environment, and loyalty have a coefficient of determination (R square) of 0.692, according to table 3. This finding demonstrates that 69.2% of work behaviour may be explained by the input or impact of pedagogical competence, work environment, and loyalty. The influence of other factors not covered in the study accounts for the remaining 30.8%. The value of e_4 is:

$$e_4 = \sqrt{1 - 0.69} = \sqrt{0.30} = 0.55$$

then obtained the results of the path diagram in Figure 7

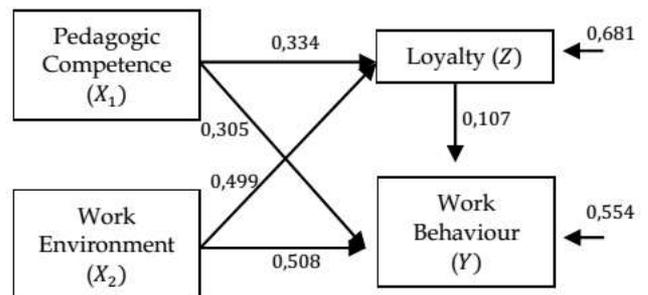


Figure 7. Diagram of path analysis results

Discussion

The Effect of Pedagogical Competence (X_1) on Work Behaviour (Y)

The results showed that the variable X_1 on (Y) path coefficient of 0.305 with ρ -value $0.00 < 0.05$ means that it has a positive direct effect on work behaviour (Y) with a significance of 4.76. This shows that there is a significant influence of pedagogical competence on work behaviour. So it can be concluded that improving pedagogical competence can directly affect the work behaviour of teachers in SMPN Serang Regency Region I.

Pedagogical quality is one of the four competencies required for teachers according to Law No. 14 of 2005 Working behaviour in understanding students,

organising and delivering instruction, assessing learning objectives, and helping students take advantage of their many possibilities (Tanjung et al., 2023). Knowledge (the capacity to think), attitudes, and abilities demonstrated in practice are all components of competence. To put it another way, competence is the ability to master information, skills, beliefs, and attitudes that are demonstrated in a consistent way of thinking and acting when doing their tasks or work (Nurarfiansyah et al., 2022). This is consistent with findings from studies Alamsyah et al. (2023) that competence has a significant positive impact on teacher work behaviour. Likewise Wahyuni et al. (2023) pedagogic competence has a significant positive impact on teacher performance. The better the pedagogic competence, the better the quality of teacher performance.

Effective learning implementation requires teachers' mastery of pedagogical competence. Pardede et al. (2024) mastery of pedagogical competence can be implemented in learning strategies by planning goals, using methods, and a series of learning systems that contribute to student learning outcomes. Pedagogical competence translates to various behaviours in teaching practice. Research from Mața et al. (2013) shows that the main competencies in the teaching process include cognitive and behavioural aspects, especially the application of methods, learning techniques, and evaluation.

Pedagogic competence has the benefit of increasing the effectiveness of learning to facilitate student understanding, develop critical thinking skills, increase student motivation and skills, build good relationships between students and teachers and improve professional abilities (Amaliyah, 2024). So increasing pedagogical competence will improve the work behaviour of teachers as educators in schools. This is in line with the research of Sulaiman et al. (2015) shows the performance of teachers and their instructional abilities are significantly correlated. The quality of teachers work behaviour throughout the student learning process is enhanced by higher pedagogical competence.

Developing teachers' pedagogical skills is essential to enhancing work behaviour in accordance with the duties and functions of educators. Despite progress in teacher education, there are still obstacles such as the lack of effective training programmes and limited access to quality education. This emphasises the need for an overarching strategy that combines theoretical and practical experiences to support teacher behaviour in schools (Herut & Setlhako, 2025).

Teacher work behaviour can be improved by increasing pedagogical competence (Dewi et al., 2022). Increasing pedagogical competence can be done by participating in technical guidance activities which will

affect teacher work behaviour in implementing education with the ability to develop worksheets as teaching materials in supporting the learning process. In addition, efforts to improve the quality of teacher competence include education programs in universities, teacher professional education programs (PPG), training and education, seminars, workshops, teacher learning communities such as MGMP and KKG (Alamsyah et al., 2023).

The Effect of Work Environment (X_2) on Work Behaviour (Y)

The findings shown X_2 on (Y) path coefficient of 0.30 with ρ -value $0.00 < 0.05$ indicates that it has a positive direct influence on work behaviour (Y) with a significance of 8.30. This shows that there is a significant influence between the work environment on work behaviour. Therefore, it may be said that be concluded that improving the work environment can directly affect the work behaviour of teachers of State Junior High Schools (SMPN) in Serang Regency Region I. The way that people behave at work is a reflection of how they respond to several elements, including their surroundings, when doing jobs. Ramdhona et al. (2022) state that the work environment encompasses everything around employees that may have an impact on their ability to perform their jobs.

This is consistent with findings from studies Rahayuni (2020), that the degree of employee loyalty is positively and significantly impacted by the conditions of the work environment. It has been demonstrated that a work environment that meets the demands of employees influences how well they perform (Jahroni & Darmawan, 2022). Professionalism may be promoted by a supportive work environment; therefore, it is important to design the physical and non-physical elements of the workplace to make employees feel comfortable (Darmawan, 2016). A key element in raising teacher effectiveness and performance is creating a welcoming and healthy learning environment (Sugiuchi et al., 2025).

The findings of this study do not align with previous research Sari (2013) which states that the better the work environment, the performance of teachers will decrease this is due to physical and non-physical comfort and convenience can make teachers less challenged at work. However, research Sari (2013) states that the environment can provide encouragement to one's work performance and encourage work.

A conducive work environment can influence work behaviour, productivity and effectiveness (Siagian, 2014). Work environment factors can affect teacher work behaviour including: building, colour selection, lighting, air circulation, cleanliness, security, relationships between teachers and principals (Prasetyo, 2024). Paying

attention to and maximising environmental conditions can improve teacher work behaviour because it can provide a sense of security and comfort while doing work at school. In addition, the environment has a contribution to students to achieve their potential, this is because a comfortable environment can support the learning process (Larasati et al., 2023). Addressing teacher performance issues requires a more holistic evaluation system, supported by ongoing training and the provision of adequate resources to ensure optimal teaching quality and a positive impact on student learning (Unruh, 2024).

The Effect of Loyalty (Z) on Work Behaviour (Y)

The results showed that the variable Z on (Y) path coefficient of 0.10 with p -value $0.04 < 0.05$ means that it has a positive direct effect on work behaviour (Y) with a significance of 1.99. This shows that there is a significant effect of loyalty on work behaviour. So it can be concluded that increasing loyalty can have a direct effect on the work behaviour of teachers of SMPN Serang Regency Region I. This is in line with the research of Mandiangan et al. (2023), and Suhardi et al., (2021) showing a significant positive effect between loyalty between work loyalty and employee performance is also relevant in the context of teacher work behaviour. Teachers who have high loyalty to their profession tend to show greater dedication, work with more discipline, and strive to provide quality teaching which ultimately has an impact on the effectiveness of learning and student learning outcomes.

Loyalty has the meaning of obedient, obedient and loyal. Loyalty is one of the qualities that determine the relationship between work agencies and teachers (Abdullah et al., 2021). Teachers' work loyalty to work affects the actions of teachers carrying out their work activities, when a teacher has high work loyalty, the teacher will carry out his function and position as a teacher and educator with a full sense of responsibility (Suwardi et al., 2017).

Loyalty can be measured by compliance with workplace rules, high responsibility, sincere dedication to the workplace, and the ability of teachers to complete tasks well (Mandiangan et al., 2023). Employees with high loyalty show improved performance which is reflected in work behaviour. Loyalty contributes to positive work behaviours, such as creativity, motivation, and effective classroom management. Teachers who are satisfied with their jobs tend to experience lower burnout, are more dedicated, and are instrumental in improving student learning outcomes. Loyalty also promotes self-development and better teaching quality (Anifah & Foeh, 2022).

Loyalty is described as a type of dedication to one's employment and workplace. Teacher commitment has a positive effect on work behaviour, increasing dedication and teaching effectiveness. Teachers with high loyalty are more emotionally attached to students, colleagues, and principals creating a supportive and inclusive learning environment (Mărgărițoiu, 2015).

The Effect of Pedagogical Competence (X_1) on Work Behaviour (Y) Through Loyalty (Z)

The results demonstrated that the variable (X_1) on (Y) through (Z) with a path coefficient of 0.03 has a positive indirect effect on work behaviour (Y). There is no mediation effect, according to the $1,79 < 197$ Sobel test findings. thus, it can be said that pedagogical competency and the work behaviour of SMPN teachers in Serang Regency Region I have not been significantly mediated by loyalty.

This research contrasts with research Sugiyarti et al. (2016) that competence has a significant positive effect on productivity through loyalty. When someone has commitment and trust in something, he will be willing to sacrifice and remain loyal to his beliefs. In addition, loyalty is one of the important aspects that affect the level of teacher productivity in an organisation (Sampe & Ellis, 2023). However, based on the research data, loyalty does not have a significant mediating effect, because teacher behavior is directly influenced by pedagogical skills, so that without the loyalty variable, teachers can already behave in accordance with work standards. This is in line with research Wahyuningsih et al. (2021) that pedagogical competence has a significant positive effect on teacher performance.

Additional variables, like work satisfaction, are examples of additional components. According to studies Nong et al. (2024), employees' performance and job satisfaction increase with their level of competence. The quality of an educator is reflected in his abilities. Mastery of pedagogic competence can provide teacher satisfaction at work. Teacher job satisfaction is related to loyalty to the institution, which mediates the effect of competence on work behaviour. Competent teachers tend to be more satisfied, increase loyalty, and exhibit positive work behaviours such as discipline, creativity, and engagement in learning. Thus, increased competence not only has a direct impact on work behaviour, but also through loyalty to the institution (Almanwari et al., 2024).

Effect of Work Environment (X_2) on Work Behaviour (Y) Through Loyalty (Z)

The results showed that the variable (X_2) on (Y) through (Z) with a path coefficient of 0.05 means that it has a positive indirect effect on work behaviour (Y). The

sobel test result of $1,90 < 197$ shows that there is no mediating effect. So it can be concluded that loyalty has not shown a significant mediating effect of the work environment on work behaviour in SMPN teachers in Serang Regency Region I.

This research is inversely proportional to research Sholihin et al. (2021) that loyalty has a mediating effect on the work environment. Sasti (2020) research also confirms that a conducive work environment increases teacher loyalty by creating support, a sense of belonging, and commitment to their duties. Loyalty formed from a good work environment strengthens motivation, cooperation, and job satisfaction, which in turn has a positive impact on teacher work behaviour. Work loyalty reflects a positive relationship between employees and the place where they work. Employees who dedicate their skills and expertise, perform tasks responsibly, maintain honesty in their work, and foster positive professional relationships (Sariwulan & Ghofar, 2024). A supportive work environment enhances job effectiveness and satisfaction, influencing work behavior, with loyalty serving as a key mediator in improving overall work performance. Employees who are satisfied at work tend to be more productive and committed to their work (Dewi & Frianto, 2020).

The relationship between work behaviour and the work environment is not necessarily mediated by loyalty. This is due to the fact that the workplace may have a more direct impact on employee conduct, making loyalty less significant. The study's findings are consistent with research Buluati et al. (2022) showing that teacher performance is directly impacted by the work environment. A conducive work environment encourages an increase in teacher work behaviour. However, improvements in aspects of the social environment are still needed to strengthen relationships between school members, which contribute to more productive and collaborative work behaviour.

Another factor is that other variables such as motivation may be more effective in mediating the relationship. This is in line with research Hariyanto (2021) and Caksana (2019) that motivation provides a mediating effect on the work environment on performance. Aspects such as comfort, growth opportunities, facilities, organisational reputation and financial prosperity influence this. In other words, a good work environment increases motivation, resulting in better work behaviour. Other factors such as differences in organisational culture and employee characteristics may affect the relevance of loyalty as a mediator.

Conclusion

The results showed that there is a significant positive direct effect of pedagogical competence, work environment and loyalty on the work behaviour of teachers at SMPN Serang Regency Region I. There is an indirect effect of pedagogic competence, work environment on the work behaviour of teachers of SMPN Serang Regency Region I. However, loyalty does not have a significant mediating effect in influencing pedagogic competence or loyalty. However, loyalty does not have a significant mediating effect in influencing pedagogical competence or work environment on the work behaviour of teachers at SMPN Serang District Region I. Competency improvement Increased pedagogic competence training and a supportive work environment are needed to improve teacher performance. Loyalty needs to be combined with other more influential factors. In educational practice, schools can implement practice-based training programmes, stress management, and performance evaluation that consider the work environment. Future research should explore other mediating factors, such as job satisfaction or motivation, and understand the long-term impact.

Acknowledgments

Appreciation we want to express our profound gratitude to our adviser Prof. Dr. H. Yayat Ruhiat, M.Si., Prof Dr. H. M. Syadeli Hanafi, M.Pd, and Dr. Hj. Cucu Atikah, M.Pd who has supported us during the research process, and to the respondents, who have made a substantial contribution to the success of this study.

Author Contributions

Conceptualization Y.R., S. H., C. A.; methodology, S. H., C. A.; Validation Y.R. S.H.; formal analysis, Y.R; writing – original draft preparation, C. A.; writing – review and editing, S. H., Y. R.; visualization, Y. R., S.H., All authors have read and agreed to the published version of the manuscript.

Funding

This research received no external funding.

Conflicts of Interest

Researcher declares no conflict of interest.

References

- Abdullah, A., Amir, M., & Husna, A. (2021). *Membangun Loyalitas Sumber Daya Manusia*. Jawa Timur: Qiara Media.
- Afridezi, A., Azhar, F., & Suarman, S. (2021). Pengaruh Perilaku Guru Dan Motivasi Kerja Terhadap Kinerja Guru Di Lingkungan Yayasan Pendidikan Cendana Pekanbaru. *Jurnal JUMPED (Jurnal Manajemen Pendidikan)*, 9(2), 123.

- <https://doi.org/10.31258/jmp.9.2.p.123-134>
- Alamsyah, A., Pettalongi, S. S., & Rustina, R. (2023). Pengaruh Kode Etik dan Kompetensi Terhadap Perilaku Kerja Guru Di Mts Negeri Palu. *Jurnal Integrasi Manajemen Pendidikan*, 2(1), 11-19. <https://doi.org/10.24239/jimpe.v2i1.1861>
- Albasari, I. N. K., & Adiwati, M. R. (2023). Pengaruh Loyalitas Karyawan Dan Lingkungan Kerja Terhadap Kinerja Karyawan Pada Pt. Pmp Unit Bobbin Jember. *Scientific Journal Of Reflection : Economic, Accounting, Management and Business*, 6(1), 30-38. <https://doi.org/10.37481/sjr.v6i1.616>
- Almanwari, H. S. A., Saad, N. H., & Zainal, S. R. M. (2024). The influence of environment & location, personal motivation, and fee & price on satisfaction, attituding and behavioural loyalty among international students in Oman. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(2), 100285. <https://doi.org/10.1016/j.joitmc.2024.100285>
- Almeyda, M., & Gulo, Y. (2022). Pengaruh Kompensasi, Lingkungan Kerja dan Budaya Organisasi terhadap Kepuasan Kerja Karyawan. *E-Jurnal Manajemen Trisakti School of Management (TSM)*, 2(4), 151-160. <https://doi.org/10.34208/ejmtsm.v2i4.1773>
- Amaliyah, N. (2024). *Profesi Keguruan*. Penerbit Samudra Biru (Anggota IKAPI).
- Anifah, A., & FoEh, J. E. (2022). Faktor Pengaruh Kepuasan Kerja Dan Loyalitas Kerja. *Jurnal Kajian Ilmiah*, 22(3), 253-266. <https://doi.org/10.31599/jki.v22i3.1231>
- Budhiarto, E. (2024). *Konsistensi Peningkatan Kompetensi Guru Penting untuk Wujudkan Generasi Unggul di masa Datang*. Retrieved from <https://www.jurnas.com/mobile/artikel/151472/Konsistensi-Peningkatan-Kompetensi-Guru-Penting-untuk-Wujudkan-Generasi-Unggul-di-masa-Datang/>
- Buluati, V., Ansar, A., & Arsyad, A. (2022). Pengaruh Karakteristik Mengajar Guru, Lingkungan Kerja, Dan Perilaku Konflik Terhadap Kinerja Guru di Sekolah Menengah Pertama Negeri Se Kabupaten Pohuwato. *Aksara: Jurnal Ilmu Pendidikan Nonformal*, 8(1), 269. <https://doi.org/10.37905/aksara.8.1.269-280.2022>
- Caksana, N. P. E. (2019). Pengaruh Gaya Kepemimpinan Kepala Sekolah dan Lingkungan Kerja terhadap Kinerja Guru dengan Motivasi Kerja sebagai Variabel Intervening pada SMAN 1 Tulungagung. *Jurnal Penelitian Manajemen Terapan (Penataran)*, 4(2), 82-92. Retrieved from <https://journal.stieken.ac.id/index.php/penataran/article/view/412>
- Dani, A., & Nugraha, M. E. (2023). Analisis Perilaku Kerja Karyawan Pada PT Bumi Nyiur Swalayan (BNS) Pusat. *Jurnal Mutiara Ilmu Akuntansi*, 1(2), 116-125. <https://doi.org/10.55606/jumia.v1i2.1196>
- Darmawan, D. (2018). Pengaruh Profesionalisme Dan Kondisi Kerja Terhadap Komitmen Organisasi. *Jurnal Ekonomi dan Bisnis*, 8(1), 21-26. Retrieved from <https://jurnal.unai.edu/index.php/jtimb/article/view/2973/2158>
- Dewi, N. C. K., & Frianto, A. (2020). Peran Kepuasan Kerja Sebagai Variabel Intervening Memengaruhi Kinerja Karyawan. *Jurnal Ilmu Manajemen (JIM)*, 8(2), 408-416. Retrieved from <https://ejournal.unesa.ac.id/index.php/jim/article/view/31753>
- Dewi, W. S., Mairizwan, M., Afrizon, R., Arif, K., & Sundari, P. D. (2022). Improvement of Science Teachers' Competence in Developing the Integrated Sciences Worksheets Based on Scientific Literacy to Support the Implementation of the Merdeka Curriculum. *Jurnal Penelitian Pendidikan IPA*, 8(6), 2980-2986. <https://doi.org/10.29303/jppipa.v8i6.2558>
- Fatmawati, I. (2022). Komunikasi Organisasi Dalam Hubungannya Dengan Kepemimpinan Dan Perilaku Kerja Organisasi. *Revorma: Jurnal Pendidikan Dan Pemikiran*, 2(1), 39-55. <https://doi.org/10.62825/revorma.v2i1.18>
- Hariyanto, H. (2021). Pengaruh Lingkungan Kerja dan Budaya Organisasi terhadap Kinerja Karyawan dengan Motivasi kerja Sebagai Variabel Mediasi pada Hotel Bintang Empat di Kota Batam. *Jesya (Jurnal Ekonomi & Ekonomi Syariah)*, 4(2), 1276-1287. <https://doi.org/10.36778/jesya.v4i2.467>
- Hasbi, H., Mulyadi, A., & Mustari, M. (2021). Pengaruh Kompetensi Pedagogik, Disiplin Kerja, Dan Kondisi Lingkungan Sekolah Terhadap Kinerja Guru Sma Negeri 1 Soppeng. *Bata Ilyas Educational*, 1(1), 1-7. <https://doi.org/10.37531/biemr.v1i1.89>
- Herut, A. H. (2024). Global trends of research on advancing the pedagogical competence of preschool teachers: A bibliometric analysis. *Social Sciences and Humanities Open*, 10(March), 100947. <https://doi.org/10.1016/j.ssaho.2024.100947>
- Herut, A. H., & Setlhako, M. A. (2025). Shaping future preschool teachers in Ethiopia: A qualitative evaluation of pedagogical competence development mechanisms. *Social Sciences and Humanities Open*, 11(September), 101218. <https://doi.org/10.1016/j.ssaho.2024.101218>
- Jahroni, J., & Darmawan, D. (2022). Pengaruh Motivasi, Disiplin, Dan Lingkungan Kerja Terhadap Kinerja

- Karyawan. *Jurnal Terapan Ilmu Manajemen Dan Bisnis*, 5(2), 95–106. <https://doi.org/10.58303/jtimb.v5i2.2973>
- Larasati, V. A., Sunaengih, C., & Syahid, A. A. (2023). Pemberian Pendidikan Karakter Dengan Relevansi Pedagogi Dalam Film Animasi Upin Ipin. *Jurnal Elementaria Edukasia*, 6(3), 1403–1415. <https://doi.org/10.31949/jee.v6i3.5871>
- Mandiangan, P., Makapedua, J., & Supit, V. (2023). Pengaruh Loyalitas Kerja Terhadap Kinerja Karyawan Pada Divisi Operasional PT. BPR Prisma Dana Manado. *Jurnal Ekomaks Jurnal Ilmu Ekonomi Manajemen Dan Akuntansi*, 12(1), 277–282. <https://doi.org/10.33319/jeko.v12i1.121>
- Manik, S., & Syafrina, N. (2018). Pengaruh Lingkungan Kerja terhadap Kinerja Guru pada Sekolah Dasar Negeri 009 Kuala Terusan Kecamatan Pangkalan Kerinci. *Eko Dan Bisnis (Riau Economics and Business Reviewe)*, 9(3), 158–167. <https://doi.org/10.36975/jeb.v9i3.29>
- Măță, L., Cmeciu, D., & Ghiațău, R. M. (2013). A Reference Framework of Pedagogical Competences of Language Teachers in the Initial Training Programmes. *Procedia - Social and Behavioral Sciences*, 93, 648–653. <https://doi.org/10.1016/j.sbspro.2013.09.255>
- Maya, D., Sandra, T., Anugrah, D., & Siddiq, D. M. (2024). Pengaruh Loyalitas, Motivasi Kerja, Dan Kepemimpinan Melayani Terhadap Kinerja Guru Honorer Sekolah Menengah Kejuruan. *Jurnal Ekonomi Manajemen (JEKMa)*. Retrieved from <https://jurnalhost.com/index.php/jekma/article/view/1572>
- Nugroho, A. (2021). Upaya Meningkatkan Kompetensi Pedagogik Guru Non Kependidikan dalam Penyusunan Perencanaan Pembelajaran Melalui Supervisi Akademik di Madrasah. In *Jurnal Pendidikan Konvergensi Januari: Vol. VIII* (35th ed.). Surakarta: Cv. Akademika.
- Nurarriansyah, L. T., Kholizah, N. A., Sani, D. A., Sembiring, D. F. Y., Ramadhani, P. S., Dermawan, M. M., Oktaviani, D., & Nasution, I. (2022). Upaya Meningkatkan Kompetensi Profesional Guru. *Edupeedia*, 6(2), 148–160. <https://doi.org/10.24269/ed.v6i2.1489>
- Pardede, M., Karo-karo, S., Gulo, Y., & Gultom, F. (2024). The Effect of Teacher Competence on Student Learning Outcomes. *Jurnal Penelitian Pendidikan IPA*, 10, 679–684. <https://doi.org/10.29303/jppipa.v10iSpecialIssue.7374>
- Prasetyo, F. I. (2024). *Manajemen Sumber Daya Manusia: Teori dan Kasus dari Sudut Pandang Individu dan Organisasi*. Jawa Tengah: PT Nasya Expanding Management.
- Rahayuni, S. (2020). Pengaruh Komunikasi, Lingkungan Kerja, Komitmen Organisasi terhadap Loyalitas Kerja Pegawai Dinas Pemberdayaan Masyarakat dan Kampung, Pemberdayaan Perempuan dan Keluarga Berencana Kabupaten Aceh Tamiang. *Tijarah*, 2(20), 80–91. Retrieved from <https://jurnal.uisu.ac.id/index.php/tjh/article/view/2749/1842>
- Rahmawati, I., Sa'adah, L., & Cahbibi, M. N. (2020). *Karakteristik Individu dan Lingkungan Kerja Serta Pengaruhnya terhadap Kepuasan Kerja Karyawan*. Jombang: Penerbit LPPM Universitas KH. A. Wahab Hasbullah.
- Ramdhona, T. S., Rahwana, K. A., & Sutrisna, A. (2022). Pengaruh Lingkungan Kerja Dan Motivasi Kerja Terhadap Disiplin Kerja Guru. *Jurnal Valuasi: Jurnal Ilmiah Ilmu Manajemen Dan Kewirausahaan*, 2(2), 891–914. <https://doi.org/10.46306/vls.v2i2.119>
- Ruhat, Y., Asphianto, A., Chaidir, J., Haerofiatna, & Santoso, C. A. H. F. (2023). *Statistik Pendidikan: Analisis Berbasis Skala Pengukuran dengan Ms Excel, SPSS-25, Smart PLS*. Media Edukasi Indonesia.
- Sampe, P. D., & Ellis, R. (2023). Pengaruh Kepemimpinan Melayani Dan Lingkungan Kerja Terhadap Kesetiaan Guru Honor Perempuan Di Sekolah Yayasan Sekolah Kristen Kota Ambon. *Pedagogika: Jurnal Pedagogik Dan Dinamika Pendidikan*, 11(1), 111–119. <https://doi.org/10.30598/pedagogikavol11issue1page111-119>
- Sari, F. M. (2013). Pengaruh Kompetensi Dan Lingkungan Kerja Terhadap Kepuasan Kerja Dan Kinerja Guru Di Sd Negeri Kecamatan Gondang Mojokerto. *DiE: Jurnal Ilmu Ekonomi Dan Manajemen*, 9(2), <https://doi.org/10.30996/die.v9i2.213>
- Sariwulan, T., & Ghofar, A. (2024). *Perilaku Organisasi dan Manajemen Kinerja*. Sukoharjo: Pradina Pustaka.
- Sasti, F. (2020). *Pengaruh Lingkungan Kerja Terhadap Loyalitas Karyawan Pada Ptpn Ii Bandar Klippa*. Retrieved from <https://repositori.uma.ac.id/jspui/handle/123456789/21683>
- Sholihin, U., & Arida, R. W. (2021). Dampak Mediasi Loyalitas Kerja pada Lingkungan, Motivasi, Kompensasi dan Kepuasan Kerja terhadap Kinerja Karyawan. *Jkbn (Jurnal Konsep Bisnis Dan Manajemen)*, 8(1), 47–57. <https://doi.org/10.31289/jkbn.v8i1.5532>
- Siagian, S. P. (2014). *Manajemen Sumber Daya Manusia*. Jakarta: Bumi Aksara.
- Sitompul, M. W. A., Tambunan, Y. S., & Pohan, S. (2022).

- Pengaruh Kepuasan Kerja Dan Loyalitas Kerja Terhadap Kinerja Guru Pada Smp Negeri 2 Sibolga. *Jurnal Publikasi Ilmu Manajemen*, 1(4), 85–99. <https://doi.org/10.55606/jupiman.v1i4.691>
- Sugiuchi, M., Arata, S., Ikaga, T., Shiraishi, Y., Hayashi, T., Nakano, J., Ando, S., & Kawakubo, S. (2025). Analyzing multiple elements of physical office environment for maximizing perceived work efficiency: Insights from surveys of 58 offices during summer. *Building and Environment*, 267(October). <https://doi.org/10.1016/j.buildenv.2024.112153>
- Sugiyarti, S., & Suddin, A. (2016). Pengaruh Kepemimpinan, Disiplin, Dan Kompetensi Terhadap Produktivitas Kerja Guru Dengan Loyalitas Sebagai Variabel Mediasi Pada Smp Negeri 4 Surakarta. *Jurnal Manajemen Sumber Daya Manusia*, 10(1), 15–27. Retrieved from <https://ejournal.unisri.ac.id/index.php/Manajemen/article/view/1244>
- Sugiyono. (2020). *Metodologi Penelitian Kuantitatif, Kualitatif dan R & D*. Alfabeta.
- Suhardi, A., Ismilasari, I., & Jasman, J. (2021). Analisis Pengaruh Loyalitas dan Komitmen Organisasi terhadap Kinerja Karyawan. *Jesya (Jurnal Ekonomi & Ekonomi Syariah)*, 4(2), 1117–1124. <https://doi.org/10.36778/jesya.v4i2.421>
- Sulaiman, & Yuliansari, I. (2015). Hubungan Kompetensi Pedagogik Guru Dengan Kinerja Guru Sekolah Dasarnegeri Di Kecamatan Banjarmasin Utara. *Jurnal Paradigma*, 10(1), 25–28. Retrieved from <https://ppjp.ulm.ac.id/journal/index.php/paradigma/article/view/2848>
- Supriyono, A. (2017). Pengaruh Kompetensi Pedagogik, Profesional, Dan Motivasi Kerja Terhadap Kinerja Guru Sekolah Dasar. *Jurnal Pendidikan*, 18(2), 1–12. <https://doi.org/10.33830/jp.v18i2.269.2017>
- Suwardi, S., Firmiana, M. E., & Nida, F. (2017). Pengaruh Loyalitas Terhadap Kinerja Guru SD Awal. *Jurnal Al-Azhar Indonesia Seri Humaniora*, 3(1), 96. <https://doi.org/10.36722/sh.v3i1.200>
- Tanjung, I. F., Anas, N., & Adlini, M. N. (2023). Wahdatul Ulum Integrated Pedagogical Competence: Analysis in Pre-service Biology Teacher. *Jurnal Penelitian Pendidikan IPA*, 9(2), 873–879. <https://doi.org/10.29303/jppipa.v9i2.2493>
- Thi Nong, N. M., Phuong, N. Q., & Duc-Son, H. (2024). The effect of employee competence and competence - job - fit on business performance through moderating role of social exchange: A study in logistics firms. *Asian Journal of Shipping and Logistics*, 40(4), 187–197. <https://doi.org/10.1016/j.ajsl.2024.10.001>
- Unruh, E. (2024). Too much of a good thing? Teacher performance during the COVID-19 pandemic and the ambiguous role of high teacher autonomy. *International Journal of Educational Research Open*, 7(March), 100353. <https://doi.org/10.1016/j.ijedro.2024.100353>
- Wahyuningsih, R. (2021). Pengaruh Kompetensi Pedagogik Dan Kompetensi Professional Guru Terhadap Kinerja Guru Di MAN 3 Jombang. *Jurnal Cahaya Mandalika*, 2(2), 95–102. <https://doi.org/10.36312/jcm.v2i2.392>
- Wahyuni, W., & Susanto, H. (2023). Pengaruh Kompetensi Pedagogik Dan Disiplin Kerja Terhadap Kinerja Guru Melalui Komitmen Kerja Sebagai Variabel Intervening Pada Guru Kompleks Giki 3 Surabaya. *Jurnal Manajerial Bisnis*, 6(1), 59–72. <https://doi.org/10.37504/jmb.v6i1.480>
- Widayati, F., Fitria, H., & Fitriani, Y. (2020). Pengaruh Kepuasan Kerja dan Loyalitas Kerja terhadap Kinerja Guru. *Journal of Education Research*, 1(3), 251–257. <https://doi.org/10.37985/jer.v1i3.29>