State civil apparatus performance model: The role of transformational leadership, work autonomy, and work involvement

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Abstract: The performance of local government employees plays an important role in carrying out government functions and providing quality public services. This study aims to analyze the relationship between Transformational Leadership and Job Performance, focusing on the mediating role of Work Engagement and moderating Job Autonomy in the context of employees of the Sumenep Regency Government. Although the Sumenep Regency Government achieved an Unqualified Opinion (WTP) on the financial report, challenges in the form of ethical violations and low productivity remain. The research method used a questionnaire to collect data from 81 employees with the Slovin sampling technique, ensuring the representativeness of the results. The results of the analysis showed that Job Autonomy had a significant effect on Job Performance (O = 0.555; T = 5.551; p = 0.000), while Transformational Leadership did not contribute directly to Job Performance (O = 0.038; T = 0.468; p = 0.320). This study is expected to provide new insights into the mechanisms that affect employee performance in the public sector and suggest the application of the transformational leadership model as a strategy to increase employee work engagement and performance, as well as increase accountability and transparency in the management of public resources.

Keywords: Job Autonomy, Job Performance, Public Sector, Transformational Leadership, Work Engagement.

1. Introduction

The performance of local government employees has a crucial role in carrying out government functions and providing quality public services. (Wau & Purwanto, 2021). Local government employees are directly responsible for providing vital services to the community, such as in the health, education, licensing and infrastructure sectors.(Apriliana & Nawangsari, 2021). Optimal performance not only ensures the efficiency and effectiveness of services, but also ensures that employees comply with applicable regulations and laws.(Pratidina & Suryatna, 2014). Violation of this norm can harm society, create injustice and dissatisfaction. Therefore, there needs to be strict supervision of the performance of government employees so that transparency and accountability can be established in the management of public resources, where the public has the right to know the use of the public budget.

The performance of local government employees also has a significant impact on regional development. In this context, they are actively involved in planning, implementing, and supervising development projects aimed at improving the quality of life of the community. (Sinabariba & Fahmi, 2021). However, in the midst of these efforts, there are serious challenges that must be faced. A real example can be seen from the massive mutation of administrative officials in Sumenep by Regent Achmad Fauzi Wongsojudo which, although expected to improve bureaucratic performance, still raises questions about the long-term effectiveness of the change. If the change is not balanced with a deep understanding of the factors that influence performance, then the shift has the potential to be in vain and ignore the need for consistency in public services.(Jatiawan et al., 2023; Suparjo et al., 2024).

Although the Sumenep Regency Government received an Unqualified Opinion (WTP) for the 2022 Regional Government Financial Report (LKPD), the reality on the ground shows that there have been glaring ethical violations, such as manipulation of attendance by a number of ASN. This case reflects

that even though there are indicators of success in financial management, unethical behavior that occurs can damage the image of the institution and reduce public trust. Complex bureaucratic problems also hinder productivity, where the long decision-making process can slow down the implementation of crucial programs. (Pardede & Mustam, 2020; Yusuff, 2023). This indicates that the success of performance reports does not always reflect the actual quality of service and requires a more in-depth evaluation.

It is critical to remember that poor performance of local government employees can lead to a decline in the quality of public services and a loss of public trust in the government. (Dermawan et al., 2022; Putra et al., 2022). This can slow down the achievement of regional development goals and create greater social and economic disparities. In this context, it is important for local governments to take strategic steps to improve the performance of their employees. One approach that needs to be explored further is the application of a transformational leadership model, which can motivate and inspire employees to achieve their full potential. Further research is also needed to explore the mediating role of work engagement and organizational commitment, as well as the moderation of job autonomy, to understand how the interaction between these variables can improve employee performance in the context of local government.

Findings(Mulya & Ahri, 2024)Charisma, inspirational motivation, intellectual stimulation, and individual attention have a positive effect on employee quality and employee performance with a p value indicating significance ($p < 0.05$).(Sinabariba & Fahmi, 2021)The Influence of Leadership Style There is a positive and significant influence between transformational leadership style and employee job satisfaction. Organizational culture also has a positive and significant influence on employee job satisfaction.(Safitri et al., 2020)The results of the study indicate that transformational leadership and work discipline have a simultaneous positive influence on employee performance. This means that both variables together affect employee performance. Partially, both variables also have a positive effect on employee performance. This means that each variable (transformational leadership and work discipline) has a significant contribution to improving employee performance separately.(Dealisa & Widodo, 2024)Influence on OCB: 3. OCB has a positive influence on performance. 4. Work engagement has a significant influence on OCB. 5. Psychological empowerment also has a positive and significant influence on OCB. The Mediating Role of OCB: 6. OCB acts as a mediator in the influence of work engagement on performance, with a partial type of mediation. 7. OCB also mediates the influence of psychological empowerment on performance.(Pebrina, 2021)The results of the study indicate that leadership autonomy support has a positive and significant influence on individual innovative behavior. This means that the higher the autonomy support from the leader, the higher the innovative behavior shown by employees.(Asri & Elisa, 2024)Transformational Leadership has a positive influence on employee performance. Organizational Culture also has a positive influence on employee performance. Work Environment has a positive influence on employee performance. Job Satisfaction functions as a significant mediating variable in the relationship between transformational leadership, organizational culture, work environment, and employee performance.(Nur Kholifah & Aidil Fadli, 2022)The results of the regression analysis show that transformational leadership, work-life balance, and work engagement simultaneously have a positive effect on employee performance with an F test result of 108.249 and a significance value of 0.000.(Prastikawati et al., 2023)Transformational Leadership has a significant negative impact on turnover intention, meaning that the higher the transformational leadership, the lower the employee's intention to resign. Transformational Leadership also has a positive effect on Affective Commitment, meaning that good leadership increases employees' emotional commitment to the organization. Affective Commitment acts as a mediator between transformational leadership and turnover intention, indicating that transformational leadership increases affective commitment, which in turn reduces employee intention to resign.(Siahaan et al., 2021)Transformational leadership style influences employee work engagement through motivation. This shows that good leadership can increase employee motivation, which in turn increases their work engagement. However, job satisfaction does not act as a mediator in the relationship between transformational leadership and work engagement. This shows that even though employees feel satisfied, this satisfaction is not enough to increase their commitment to the organization when transformational leadership is

implemented.(Angelica et al., 2022)There is a significant positive relationship between Transformational Leadership and Turnover Intention, indicating that transformational leadership style can influence employees' intention to leave their jobs. Organizational Citizenship Behavior also has a significant positive relationship with Turnover Intention, indicating that organizational citizenship behavior can contribute to employees' turnover intention. Job Autonomy and Supportive Management show a significant positive relationship with Organizational Citizenship Behavior, indicating that job autonomy and managerial support can enhance organizational citizenship behavior.(Kuswady & Hendarsjah, 2022), job performance is not affected by transformational leadership. This suggests that this leadership approach may not have a direct impact on employee performance in the context of this study. Job performance is affected by leader-member exchange. This suggests that a positive relationship between leaders and team members can improve employee performance.(Faqih & Ekowati, 2024)This study found that empowerment and transformational leadership did not have a significant effect on employee performance. This suggests that in the context of Gen Z in Malang, these two factors may not directly affect how employees perform their tasks. Findings(Neman & Hosen, 2024), The study showed that transformational leadership has a positive impact on affective organizational commitment and employee job performance, with employee engagement acting as a mediator. Employee engagement was found to be a significant mediator between transformational leadership and affective organizational commitment and job performance. This suggests that transformational leadership increases employee engagement, which in turn contributes to increased commitment and performance.(Iryana & Nasution, 2024)Job engagement does not function as a mediator between self-efficacy and innovative behavior, but it functions as a mediator between psychological well-being and innovative behavior. These findings are useful for organizational practitioners to evaluate employee innovative behavior (IWB) effectively and to determine the need for IWB support at the organizational level.(Perdani et al., 2022)The study found 26 mediating variables and 10 moderating variables that influence the relationship between transformational leadership and innovative work behavior. This shows that transformational leadership can have an impact on innovative work behavior through various factors that function as mediators and moderators.(Lubaba & Udin, 2021)Job engagement serves as an important mediator in the relationship between transformational leadership and employee support behavior. This means that good leadership can increase job engagement, which in turn can encourage employee support behavior.(Yulita et al., 2022)The influence of empowering leadership directly has a positive influence on the innovative work behavior of subordinates. This means that empowering leaders can encourage employees to innovate in their work. The empowering leadership variable also positively influences knowledge sharing behavior. This shows that supportive leadership can improve collaboration and communication among employees.(Dukhaykh et al., 2024)This study found that transformational leadership has a direct positive influence on ASN job happiness. This shows that leaders who apply a transformational leadership style can increase employees' feelings of happiness at work.

The last 10 years of studies have revealed the dominance of cross-sectional research designs, where data are only collected at one point in time. This limits the ability to draw conclusions about the causal relationships between the variables studied, including leadership, discipline, and employee performance. Although the sample size is considered sufficient for basic analysis, limitations in sample size and representativeness may affect the validity and generalizability of the findings. This study also did not consider other factors that may affect performance, such as organizational culture and individual motivation, which may play an important role in the relationship between variables. In addition, the use of questionnaires that rely on subjective assessments of respondents can cause bias, so that the results of the study may not reflect the real conditions. Therefore, further research with a longitudinal approach and a larger sample size is needed to explore the causal relationships more deeply and accurately. A Structural Equation Modeling - Partial Least Squares (SEM-PLS) model is needed to improve the existing research model.

The need for the Transformational Leadership construct is an important construct that focuses on the leader's influence on his team through certain attributes, such as attributed charisma and inspirational motivation.*(Ahmad et al., 2024)*. The first indicator, attributed charisma, measures the

leader's ability to inspire and motivate team members. Work engagement is a construct that reflects the extent to which employees feel involved and committed to their work.(Khan et al., 2024). In this study, the vigor and dedication indicators were used to assess the energy and enthusiasm that employees have when working, as well as their commitment to the tasks they perform.(Cortés-Denia et al., 2023; Hofman et al., 2022). Job Autonomy refers to the extent to which employees have freedom to make decisions regarding their work and work scheduling. Indicators such as Job Autonomy and Job Scheduling Autonomy are evaluated with questions that ask about the level of control and flexibility employees have in completing their tasks. In addition, Job Performance is measured through the responsibility and initiative indicator, which includes questions about an individual's sense of responsibility and the extent to which they take initiative in their work.(Wulandari & Wardani, 2024).

This study presents novelty by integrating various interrelated variables in the context of leadership and employee performance, namely Transformational Leadership, Work Engagement, Job Autonomy, and Job Performance. The uniqueness of this study lies in the approach that simultaneously investigates the mediating role of Work Engagement and the moderating role of Job Autonomy in the relationship between Transformational Leadership and Job Performance, which is still rarely explored in previous literature.(Hafish et al., 2024; Sowmya et al., 2024). In addition, this study focuses on local government employees, a context that is often overlooked in leadership and performance studies, so it is expected to provide a new perspective on the dynamics of public organizations.(Dealisa & Widodo, 2024; Handayani et al., 2023; Saltzman & Roeder, 2012). By exploring the complex interactions between these variables, this study not only contributes to the development of leadership theory, but also offers practical insights relevant to human resource management in the public sector, especially in improving the effectiveness of public services through optimal employee development.

This study aims to analyze the relationship between Transformational Leadership and Job Performance, as well as the mediating role of Work Engagement and moderation of Job Autonomy in the context of local government employees. Specifically, this study seeks to explore how transformational leadership can improve employee performance through increased work engagement, as well as how the level of autonomy in work affects the relationship between leadership and performance. With this aim, this study is expected to provide insight into the mechanisms underlying the improvement of employee performance in government environments, as well as provide recommendations for the development of more effective policies.

In this study, a quantitative approach will be applied using survey data from local government employees as research subjects. The independent variables to be studied are Transformational Leadership (X), while Job Performance (Y) will be the dependent variable. In addition, Work Engagement (Z) will function as a mediating variable, and Job Autonomy (M) as a moderating variable. Data analysis will be conducted using statistical techniques such as Smart PLS to test the relationship between variables, as well as to evaluate whether Work Engagement and Job Autonomy act as mediators and moderators in the relationship between Transformational Leadership and Job Performance. With this research design, the study will reveal the dynamics of interaction between variables involved in the context of work.

The practical contribution of this study is to provide recommendations for leaders in the public sector to implement transformational leadership styles that can improve employee engagement and performance. By understanding the important role of job autonomy, leaders can create a supportive and empowering work environment for employees, thereby increasing productivity and job satisfaction. On the other hand, the theoretical contribution of this study is expected to enrich the literature on leadership and performance by exploring the complex interactions between the variables studied. This study is also expected to provide a basis for further research on the influence of these variables in other organizational contexts, as well as increase understanding of the importance of psychological factors in improving employee performance.

2. Research Methodology

2.1. Design

In this study, a quantitative design was designed to examine the causal relationships between the variables involved, including Transformational Leadership, Job Autonomy, Work Engagement, and Job Performance, with an emphasis on moderation and mediation models.(Hermanto et al., 2024; Ibrahim Fahad Sulaiman et al., 2024). This design includes systematic steps starting from modeling the relationship between variables to compiling relevant indicators.(Ahmad et al., 2024). Through this approach, the researcher aims to understand how Transformational Leadership influences Job Performance by considering the mediating role of Work Engagement and the moderation of Job Autonomy.(Almutairi, 2015; Paparang et al., 2021). The use of causal explanatory models allows researchers to explain the complex relationships between these variables, where independent variables can affect dependent variables either directly or through mediation pathways involving Work Engagement. In addition, Job Autonomy functions as a moderating variable that affects the strength of the relationship between Transformational Leadership and Work Engagement, as well as between Work Engagement and Job Performance.(Ahman et al., 2020; Lestariningsih, 2021; Ramos et al., 2024). Thus, this research design is not only a matter of formulating hypotheses, but also provides a structured framework for data analysis, interpretation of results, and preparation of research reports, ensuring that each step can provide a deep understanding of the phenomenon being studied and how the interaction between variables can contribute to the research results.

2.2. Population and Sampling

In this study, the population that is the focus is the employees of the Sumenep Regency Government with structural positions from echelon II to IV, totaling 426 employees, according to data from the Human Resources and Personnel Management Agency (BPKSD) as of December 2023. Population in this context is defined as a group of individuals or objects that meet certain criteria that are relevant to the research topic, so that researchers can draw valid conclusions. Population is not just a number, but includes characteristics and qualities that are essential to understanding the dynamics within it. To obtain representative data, this study uses a sampling method with the Slovin formula, which allows researchers to determine the appropriate sample size with a 90% confidence level and a tolerable margin of error of 10%. The calculation results show that the required sample size is 81 employees, which is considered to be sufficiently representative of the large population. The use of this sample provides advantages in terms of time, cost, and resource efficiency, while allowing for in-depth analysis without sacrificing data accuracy.(Sugiyono, 2016; Suryabrata, 2014). By selecting a representative sample, the research results are expected to reflect the real conditions and characteristics of employees in the context of the Sumenep Regency Government, as well as support the validity and reliability of the findings produced.

2.3. Procedures and Data Collection

In this study, the instrument used was a questionnaire designed to collect data systematically and in a structured manner. Questionnaires are an effective data collection technique because they can reach many respondents at once through a set of written questions that need to be answered. This questionnaire is divided into two parts: the first part contains demographic questions to identify the characteristics of respondents, such as gender, age, education, and workforce, which are important to ensure sample suitability.(Heryana, 2015; Sugiyono, 2016). The second section contains statements related to the research variables, including transformational leadership, organizational commitment, job involvement, job autonomy, and employee performance. The measurement scale used is the Likert scale, which allows researchers to measure respondents' attitudes, opinions, and perceptions of the phenomenon being studied with a high level of confidence. The use of the Likert scale facilitates quantitative data analysis, because each response is given a clear score, ranging from 1 (strongly disagree) to 5 (strongly agree). The advantages of using questionnaires in this study compared to other methods are its ability to collect large amounts of data at a more efficient cost and in a shorter time, as

well as increasing objectivity and consistency in data collection, which ultimately supports the reliability and validity of the research results.

2.4. Operational Variables

The operational variable of this research is Transformational Leadership, an important construct that focuses on the influence of leaders on teams through attributes such as attributed charisma and inspirational motivation. The attributed charisma indicator measures the leader's ability to inspire and motivate team members with questions related to the leader's vision. In addition, inspirational motivation also plays an important role, assessing how leaders provide encouragement and create enthusiasm among team members.

Table 1.
Operational variables.

No.	Construct	Indicator	Code	Question Items	Reference	Scale
1	Transformational leadership (X)	Attributed charisma	X1.1	How do you rate a leader's ability to inspire and motivate a team?	(Jaboob et al., 2023; Kolomboy et al., 2021)	1-5
			X1.2	How often does your leader display an engaging personality?		
			X1.3	Does your leader have a clear vision for the future?		
		Inspirational motivation	X1.4	How often does your leader provide encouragement to achieve goals?	(Çetin et al., 2012; Miao & Cao, 2019)	1-5
			X1.5	How does your leader create team spirit?		
			X1.6	Do you feel motivated by your leader's words and actions?		
			X1.7	How often does your leader invite the team to share ideas and thoughts?		
			X1.8	Do you feel confident in carrying out your duties after getting support from your leader?		
2	Work engagement (Z)	Vigor	Z1.1	How much energy and enthusiasm do you have when working?	(Almutairi, 2015; Ranihusna et al., 2021; Wilkinson et al., 2022)	1-5
			Z1.2	Do you feel ready and excited to face the challenges of the job?		
		Dedication	Z1.3	How committed are you to the work you do?	(Hanaysha, 2016; Rulinawaty et al., 2022)	1-5
			Z1.4	Do you feel that your work has a clear meaning and purpose?		
3	Job autonomy (m)	Work autonomy	M1.1	How much freedom do you have in making decisions regarding your work?	(Helland et al., 2020; Meilianti et al., 2022; Yee et al., 2023)	1-5
			M1.2	Do you feel that you can do your job in the way you choose?		
			M1.3	How often do you get the opportunity to explore new ideas at work?		

		Work scheduling autonomy	M1.4	How much control do you have over your work schedule?	(Belias et al., 2015; Pang & Lu, 2018)	1-5
			M1.5	Are you comfortable with the flexibility of time in completing tasks?		
			M1.6	How often can you adjust your work schedule to suit your personal and work needs?		
			M1.7	Do you feel that your work schedule allows room for work-life balance?		
4	Job Performance (Y)	Responsibility	Y1.1	How much responsibility do you feel for the tasks you are entrusted with?	(Almutairi, 2015; I Made Suar Yaso et al., 2023; Paparang et al., 2021)	1-5
			Y1.2	Do you feel an obligation to complete the job well?		
		Initiative	Y1.3	How often do you take the initiative in getting work done?	(Chalisa & Prawitasari, 2024; Handayani et al., 2023; Zaim et al., 2024)	1-5
			Y1.4	Do you feel brave enough to propose new ideas at work?		
			Y1.5	How much do you want to contribute more to the work being done?		

On the other hand, Work Engagement reflects the extent to which employees feel involved and committed to their work, evaluated through indicators of vigor and dedication that measure energy and enthusiasm as well as commitment to the task. Job Autonomy refers to the freedom of employees to make decisions regarding work and work scheduling, with questions assessing the level of control and flexibility that employees have. In addition, Job Performance is measured through indicators of responsibility and initiative, including questions regarding the sense of responsibility and the extent to which individuals take initiative in their work.(Chalisa & Prawitasari, 2024; Handayani et al., 2023; Zaim et al., 2024). By studying the relationship between job autonomy, performance, and engagement, this study seeks to identify key factors that influence employee effectiveness in the civil service sector in Sumenep Regency.

2.5. Research Procedures

At the outer model test stage in SEM-PLS analysis, an evaluation of the validity and reliability of the indicators for each construct is carried out. Convergent validity is measured using the expected loading factor value of more than 0.70.(Cassia & Magno, 2024; Xia et al., 2024). For example, if the indicator for Transformational Leadership shows a loading factor between 0.75 and 0.85, this indicates good convergent validity. In addition, the Average Variance Extracted (AVE) value must be more than 0.50 to support construct validity.(Ariyantiningsih et al., 2024; Rismawati et al., 2024); for example, AVE for Transformational Leadership can reach 0.65. Reliability is measured using Composite Reliability (CR) which must also be more than 0.70; for example, CR for Work Engagement of 0.88 indicates high reliability. After completing the outer model test, the next stage is the inner model test, which aims to analyze the relationship between constructs in the research model. The parameters used here include R-squared (R^2), which indicates the proportion of variance from the dependent variable that can be explained by the independent variables(Merín-Rodrigáñez et al., 2024; Yoo et al., 2024). For example, if the R^2 for Job Performance is 0.40, it means that 40% of the variance in Job Performance can

be explained by Transformational Leadership and the moderating variable. In addition, the path significance test is conducted by looking at the p-value; if the p-value <0.05, the relationship between the constructs is considered significant. An example of the results can show that the path from Transformational Leadership to Job Performance has a p-value of 0.003, while the path from Job Autonomy to Work Engagement shows a p-value of 0.012. Thus, both the outer model and inner model tests provide strong evidence of the validity and relationship between variables in this study.

3. Results and Discussion
3.1. Results
3.1.1. Outer Model

The construction of variables used in the study, focusing on values that indicate the validity and reliability of each item. For the Job Autonomy (M) variable, all items show a perfect outer loading of 1,000, with Cronbach's Alpha and Composite Reliability values also reaching 1,000, and the Average Variance Extracted (AVE) also being 1,000. This indicates that the Job Autonomy variable has very good internal consistency and validity, so it can be considered worthy of use in this study.
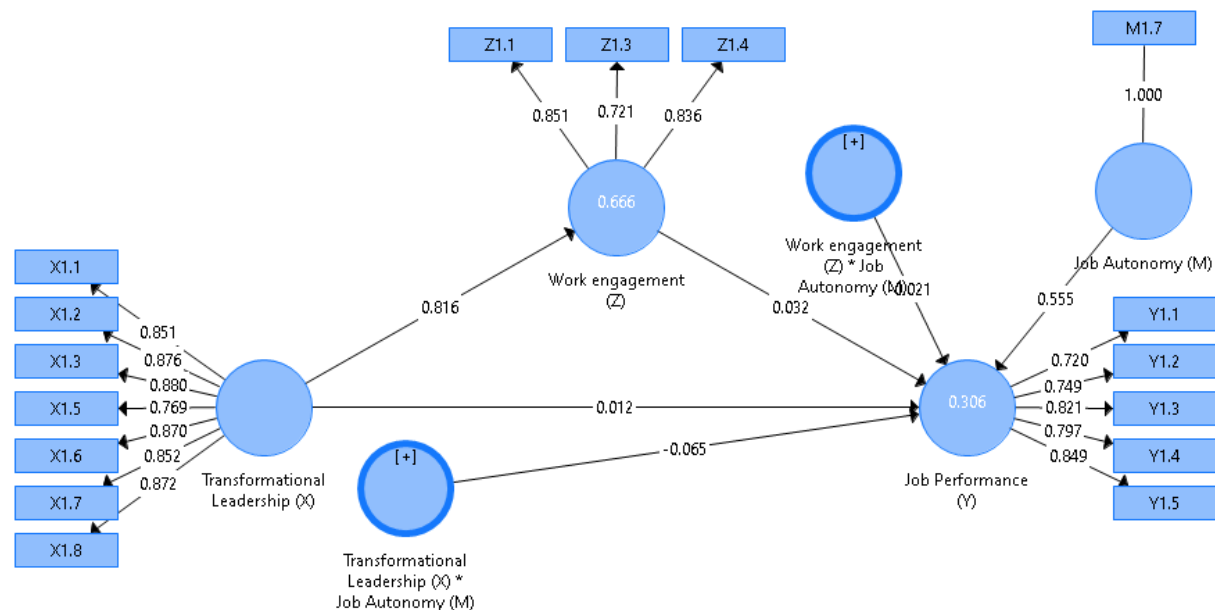

Figure 1.
Structural equation outer model.

Furthermore, in the moderating variables Transformational Leadership (X) * Job Autonomy (M) and Work Engagement (Z) * Job Autonomy (M), each has an outer loading of 0.944 and 0.928, both of which are above the established standard (>0.7), and shows a very good level of reliability with Cronbach's Alpha and Composite Reliability also reaching 1,000. This confirms that this moderating variable has sufficient power to explain the relationship between the independent and dependent variables in the research model, as well as a validity that is worthy of further analysis.

Table 2.
Outer model value.

Construct	Item	Outer Loading	Standard Parameters	Decision	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)	Decision
Job	M1.7	1,000	>0.7	Worthy	1,000	1,000	1,000	Worthy

Autonomy (M)								
Moderation 1	Transformational Leadership (X) * Job Autonomy (M)	0.944	>0.7	Worthy	1,000	1,000	1,000	Worthy
Moderation 2	Work engagement (Z) * Job Autonomy (M)	0.928	>0.7	Worthy	1,000	1,000	1,000	Worthy
Transformational Leadership (X)	X1.1	0.851	>0.7	Worthy	0.938	0.949	0.729	Worthy
	X1.2	0.876	>0.7	Worthy				
	X1.3	0.880	>0.7	Worthy				
	X1.5	0.769	>0.7	Worthy				
	X1.6	0.870	>0.7	Worthy				
	X1.7	0.852	>0.7	Worthy				
	X1.8	0.872	>0.7	Worthy				
Job Performance (Y)	Y1.1	0.720	>0.7	Worthy	0.853	0.891	0.622	Worthy
	Y1.2	0.749	>0.7	Worthy				
	Y1.3	0.821	>0.7	Worthy				
	Y1.4	0.797	>0.7	Worthy				
	Y1.5	0.849	>0.7	Worthy				
Work engagement (Z)	Z1.1	0.851	>0.7	Worthy	0.727	0.846	0.648	Worthy
	Z1.3	0.721	>0.7	Worthy				
	Z1.4	0.836	>0.7	Worthy				

Finally, the variables Transformational Leadership (X), Job Performance (Y), and Work Engagement (Z) showed varying outer loadings, but remained above the required limit (>0.7). The Cronbach's Alpha value for Transformational Leadership was 0.938, Job Performance 0.853, and Work Engagement 0.727, all of which indicated good internal consistency. Composite Reliability and AVE for each variable also showed adequate results, with the highest value in Transformational Leadership (0.949) and AVE in Job Performance (0.622). These results indicate that all constructs in this study have been tested and proven to be feasible for use in analyzing the relationship between variables as well as the moderation and mediation carried out.

In the analysis of the relationship between the variables contained in this study, Job Autonomy (M) functions as a moderator that influences the relationship between Transformational Leadership (X) and Job Performance (Y). The results of the analysis show that Job Performance (Y) has a significant positive coefficient of 0.555, which indicates a strong relationship between transformational leadership and employee performance. This shows that the higher the transformational leadership, the better the employee performance achieved. This is consistent with leadership theory that emphasizes the importance of leadership style in driving individual performance in the organization.

Table 3.
Value Heterotrait-Monotrait ratio

	Job autonomy (M)	Job performance (Y)	Transformational leadership (X)	Transformational leadership (X) * job autonomy (M)	Work engagement (Z)
Job performance (Y)	0.555				
Transformational leadership (X)	0.054	0.060			
Transformational leadership (X) * job autonomy (M)	0.067	0.056	0.138		
Work engagement (Z)	0.078	0.136	0.978	0.061	
Work engagement (Z) * Job autonomy (M)	0.303	0.101	0.048	0.749	0.091

Transformational Leadership (X) and Job Autonomy (M) show relatively small coefficient values, namely 0.054 and 0.067, with a higher value in the interaction between Transformational Leadership (X) and Job Autonomy (M) of 0.138. This shows that although there is a direct influence of transformational leadership on employee performance, the interaction between this leadership and job autonomy has an additional impact on performance. In other words, employees who have higher job autonomy can optimize their performance when led by transformational leaders, thereby creating a more productive and innovative work environment.

In addition, Work Engagement (Z) also has a significant influence on Job Performance (Y) with a coefficient of 0.136 and shows a very strong relationship with Transformational Leadership (X) (0.978). The interaction between Work Engagement (Z) and Job Autonomy (M) has a coefficient value of 0.303, which indicates that work engagement can increase the effectiveness of work autonomy in improving performance. The values obtained from this analysis indicate the importance of combining transformational leadership with work autonomy and employee engagement to achieve optimal performance in the workplace, resulting in a work environment that supports the development of individuals and the organization as a whole.

3.2. Inner Model

The original sample value (O) is 0.555 and T Statistics |O/STDEV| is 5.551. The resulting P-value is 0.000, far below the significance level of 0.05, so this hypothesis is accepted. This indicates that job autonomy plays an important role in improving employee performance, meaning that the higher the autonomy an employee has, the better the performance that can be demonstrated. This finding is consistent with the theory that job autonomy gives employees more freedom and control over their work, which can increase motivation and productivity.
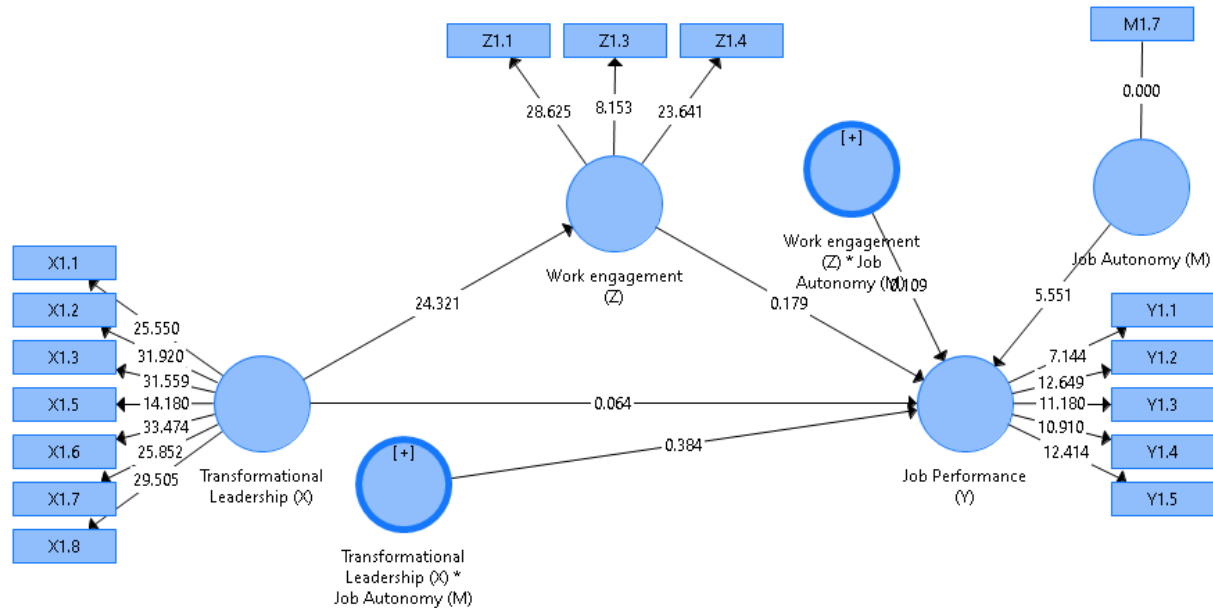
Figure 2.
Structural equation inner model.

On the other hand, the effect of Transformational Leadership on Job Performance does not show significance, with an original sample value (O) of 0.038 and T Statistics |O/STDEV| of only 0.468, resulting in a P-value of 0.320. This means that the hypothesis stating that there is a positive effect of transformational leadership on employee performance is rejected. The explanation may lie in different context factors or other variables that can moderate this relationship, so that the impact of transformational leadership is not directly reflected in increased performance.

Table 4.
Partial path hypothesis value.

	Original sample (O)	T statistics (|O/STDEV|)	P Values	Significant	Decision
Job Autonomy (M) -> Job performance (Y)	0.555	5,551	0.000	0.05	Hypothesis accepted
Transformational leadership (X) -> Job performance (Y)	0.038	0.468	0.320	0.05	Hypothesis rejected
Transformational leadership (X) -> Work engagement (Z)	0.816	24,321	0.000	0.05	Hypothesis accepted
Transformational Leadership (X) * Job autonomy (M) -> Job performance (Y)	–0.065	0.384	0.350	0.05	Hypothesis rejected
Work engagement (Z) -> Job performance (Y)	0.032	0.179	0.429	0.05	Hypothesis rejected
Work engagement (Z) * Job Autonomy (M) -> Job performance (Y)	–0.021	0.109	0.457	0.05	Hypothesis rejected

The relationship between Transformational Leadership and Work Engagement shows significant results, with an original sample (O) of 0.816 and T Statistics |O/STDEV| of 24.321, and a P-value of 0.000. This indicates that transformational leadership contributes positively to employee work

engagement, and this work engagement is expected to contribute to improved performance. However, the moderation relationship involving Transformational Leadership and Job Autonomy and the influence of Work Engagement on Job Performance is not significant, with a P-value greater than 0.05, indicating that work autonomy and work engagement do not function as effective moderation in influencing employee performance in the context of this study. These findings provide important insights into the interaction between leadership, autonomy, and engagement in the work environment, especially in the context of the State Civil Apparatus.

The object of the State Civil Apparatus performance model, the analysis of the influence between Transformational Leadership (X), Work Engagement (Z), and Performance (Y) is measured using a structural analysis approach. The results of the analysis show that the Original Sample (O) value for the influence of Transformational Leadership on Work Engagement and subsequently on Performance is 0.026. This value indicates a very weak positive relationship between the variables of Transformational Leadership with Work Engagement and Performance. However, the size of this influence is not significant enough to support the proposed hypothesis.

Table 5.
Hypothesis value of mediation path.

	Original sample (O)	T statistics (|O/STDEV|)	P values	Significant	Decision
Transformational leadership (X) -> Work engagement (Z) -> Job performance (Y)	0.026	0.176	0.430	0.05	Hypothesis rejected

From the results of the statistical analysis, the T Statistics obtained is 0.176, which indicates that the relationship is not strong. This T Statistics value is also compared to the threshold value, where a T value greater than 1.96 or less than -1.96 is generally considered significant at a significance level of 0.05. In this case, because the T Statistics value does not reach the threshold, this indicates that there is insufficient evidence to confirm that Work Engagement plays a significant role in mediating the relationship between Transformational Leadership and Performance.

The P Values obtained from the analysis are 0.430, which is much greater than 0.05, indicating that the relationship tested is not statistically significant. Based on these P Values, the hypothesis stating that Job Engagement mediates the relationship between Transformational Leadership and Performance is rejected. Thus, it can be concluded that in the context of the State Civil Apparatus, the influence of Transformational Leadership on Performance is not proven to be significant through Job Engagement, indicating that other factors may play a greater role in determining performance in the organization.

The R Square and Adjusted R Square analysis provides in-depth insight into how well the constructed model can explain the variation in the dependent variables, namely Job Performance (Y) and Work Engagement (Z). In the context of this study, the R Square value for Job Performance (Y) is 0.306, which indicates that about 30.6% of the variation in civil servant performance can be explained by the independent variables in the model, such as transformational leadership and job autonomy. Although this value is not too high, it indicates a significant influence of the variables studied on employee performance, so further research is needed to identify other factors that may affect performance.

Table 6.
R^2 path value decision.

	R Square	R square adjusted
Job performance (Y)	0.306	0.260
Work engagement (Z)	0.666	0.661

Meanwhile, R Square for Work Engagement (Z) reached 0.666, indicating that 66.6% of the variation in work engagement can be explained by the independent variables in the model. This figure is quite high and indicates that transformational leadership and job autonomy play an important role in

increasing employee engagement. This suggests that interventions related to improving leadership quality and providing greater autonomy to employees can have a positive impact on their level of engagement in work, which in turn can contribute to improved performance.

The Adjusted R Square values of 0.260 for Job Performance (Y) and 0.661 for Work Engagement (Z) respectively provide a more accurate picture of how well the model explains the data. Adjusted R Square is calculated by considering the number of variables in the model, thus providing a penalty for models that are too complex. With the Adjusted R Square value that is relatively close to R Square, we can interpret that the model built is quite good and is not too excessive in adding variables. This shows that even though there are other variables not included in this study, transformational leadership and work autonomy remain important factors in influencing employee performance and engagement in the state civil apparatus environment.

The model analysis in this study uses several parameters to assess the suitability of the model developed in the study on the performance of State Civil Apparatus (ASN), focusing on the role of transformational leadership, job autonomy, and job involvement. One of the parameters measured is the Standardized Root Mean Square Residual (SRMR), which shows the suitability of the model with a value of 0.087 for the estimated model. Although this value is above the threshold of 0.08 which is considered good, researchers should consider making improvements to the model to achieve better suitability. An SRMR value approaching 0 indicates that the model is in accordance with the observed data.

Table 7.
Fit model eligibility.

Parameter	Saturated model	Estimated model	Standard value criteria
SRMR	0.087	0.087	< 0.08 (good)
d_ULS	1,033	1,041	< 1.0 (good)
d_G	0.792	0.798	< 1.0 (good)
Chi-Square	319,458	320,813	Smaller values are better
NFI	0.701	0.699	> 0.90 (good), > 0.80 (sufficient)

The second parameter measured is d_ULS (the distance based on the unweighted least squares), which indicates the distance between the expected and observed covariance matrices. In the estimated model, the d_ULS value was recorded at 1.041, slightly above the expected criterion (<1.0), indicating that there is a misfit in the model that can be improved. Similarly, the d_G value (the distance based on the weighted least squares) showed a figure of 0.798, which is close to the threshold of 1.0, indicating that the model still needs adjustment to improve the overall fit.

Chi-Square is another important parameter in assessing model fit. The Chi-Square value for the estimated model is 320.813, which is slightly higher than the value of 319.458 in the saturated model. In statistical analysis, the smaller the Chi-Square value, the better the model fit, so this model shows room for improvement. In addition, the Normed Fit Index (NFI) value obtained was 0.699, below the expected criteria (>0.90 for good and>0.80 for sufficient), indicating that the model does not have a good fit. Overall, the results of this analysis indicate that the research model still requires further testing and adjustment to achieve an optimal level of fit in describing the relationship between transformational leadership, job autonomy, and job involvement on ASN performance.

4. Discussion
The Outer Model focuses on constructing variables that show the validity and reliability of each item. The Job Autonomy (M) variable shows excellent results with all items having an outer loading of 1,000, as well as Cronbach's Alpha and Composite Reliability values that also reach 1,000, along with an Average Variance Extracted (AVE) of 1,000. These results indicate that the Job Autonomy variable has excellent internal consistency and validity. Thus, this variable can be considered worthy of use in this study, giving researchers confidence that the results obtained from this variable are reliable and consistent. Further analysis shows that the moderating variables Transformational Leadership (X) and

Work Engagement (Z) on Job Autonomy (M) also show good outer loadings, namely 0.944 and 0.928, both exceeding the established standards (>0.7). The Cronbach's Alpha and Composite Reliability values for these two variables also reach 1,000. This shows that this moderating variable has sufficient power to explain the relationship between the independent and dependent variables in the research model. This moderation power is important in further analysis, because it can clarify how the interaction between these variables can affect the results of the study. The results of the analysis on Transformational Leadership (X), Job Performance (Y), and Work Engagement (Z) showed varying outer loadings, but all remained above the required limit (>0.7). The Cronbach's Alpha value for Transformational Leadership was 0.938, Job Performance 0.853, and Work Engagement 0.727, indicating good internal consistency. The Composite Reliability and AVE values for each variable also showed adequate results. Thus, all constructs in this study have been tested and proven to be feasible for use in analyzing the relationship between variables as well as the moderation and mediation carried out, providing more confidence in the validity of the study.

The findings are in line with(Insyra, 2022), transformational leadership does not have a significant effect on work performance. This indicates that although leaders apply a transformational leadership style, it does not directly improve employee performance. The results of the study indicate that transformational leadership has a significant effect on work engagement. This shows that good leaders can increase employee engagement in their work.(Sari & Andriyani, 2023)This study also found that meaning in work serves as a significant mediating variable between transformational leadership and work engagement. That is, transformational leadership not only directly influences work engagement, but also influences the meaning employees give to their work, which in turn increases their engagement.(Rahayu et al., 2023), authentic leadership has a significant positive effect on work engagement. This means that authentic leaders can increase the level of employee engagement in their work. Work engagement also has a significant positive effect on individual creativity, indicating that emotionally engaged employees are more likely to demonstrate creativity in their work.(Taufiq & Tanuwijaya, 2022)Although the results of the hypothesis testing are not explained in detail, this study aims to investigate the influence of transformational management, meaning in work, and psychological ownership on performance through work engagement.(Muhammad et al., 2021)The results of the analysis show an R value of 0.836 and an R-squared of 0.692, which indicates the proportion of variation in work engagement that can be explained by the transformational leadership variable.(Aswad et al., 2023), Job Satisfaction has a positive effect on Employee Performance. Transformational Leadership has a positive effect on Employee Performance through Job Satisfaction as a mediating variable.(Prabowo & Muafi, 2021)Transformational Leadership has a positive effect on Job Engagement. Perceived Organizational Support has a positive effect on Job Engagement. Job Engagement has a positive effect on Job Performance. Transformational Leadership also has a direct positive effect on Job Performance. Perceived Organizational Support has a direct positive effect on Job Performance.

In the analysis of the relationship between the variables in this study, Job Autonomy (M) functions as a moderator that influences the relationship between Transformational Leadership (X) and Job Performance (Y). The results of the analysis show that Job Performance (Y) has a significant positive coefficient of 0.555, indicating a strong relationship between transformational leadership and employee performance. This finding is in line with leadership theory which emphasizes that a good leadership style can drive individual performance in an organization, and underlines the importance of leaders in creating a supportive environment. Although the coefficient value between Transformational Leadership (X) and Job Autonomy (M) is relatively small, the interaction between the two variables shows a higher value (0.138). This shows that although there is a direct effect of transformational leadership on employee performance, the interaction between this leadership and job autonomy has an additional impact on performance. In other words, employees who have higher job autonomy can optimize their performance when led by transformational leaders, creating a more productive and innovative work environment. Work Engagement (Z) also shows a significant effect on Job Performance (Y) with a coefficient of 0.136 and has a very strong relationship with Transformational Leadership (X) (0.978). The interaction between Work Engagement (Z) and Job Autonomy (M) has a coefficient value of 0.303, indicating that work engagement can increase the effectiveness of work autonomy in

improving performance. The results of this analysis emphasize the importance of combining transformational leadership with work autonomy and employee engagement to achieve optimal performance in the workplace, creating an environment that supports the development of individuals and the organization as a whole. Thus, this study makes a significant contribution to understanding how these factors interact with each other and contribute to employee performance.

Job autonomy has a significant impact on employee performance, with an original sample (O) value of 0.555 and T Statistics |O/STDEV| of 5.551. The resulting P-value, which is 0.000, is far below the significance level of 0.05, supporting the hypothesis that the higher the job autonomy, the better the employee performance. This is in line with the theory that job autonomy provides freedom and control to employees, which contributes to increased motivation and productivity. Thus, organizations must pay attention to this factor to improve employee performance. On the other hand, the relationship between transformational leadership and employee performance does not show significance, with an original sample (O) value of 0.038 and T Statistics |O/STDEV| of only 0.468, resulting in a P-value of 0.320. This indicates that the hypothesis regarding the positive influence of transformational leadership on employee performance is rejected. The explanation for this result may lie in a different context or the presence of other variables that can moderate the relationship, so that the impact of transformational leadership is not clearly visible in improving performance. These findings suggest the need for further research to identify other factors that may influence these results. Furthermore, the analysis shows that transformational leadership significantly influences employee work engagement, with an original sample (O) of 0.816 and T Statistics |O/STDEV| of 24.321, and a P-value of 0.000. Although work engagement is expected to improve performance, the moderating relationship between transformational leadership and job autonomy and the effect of work engagement on performance is not significant. With R Square for employee performance of 0.306 and work engagement of 0.666, there is an indication that although there is an influence, this model still needs improvement to better understand the complex relationship between leadership, autonomy, and engagement in the context of the State Civil Apparatus.

5. Conclusion and Suggestions

The results of the study indicate that job autonomy (M) significantly affects job performance (Y), with an original sample value of 0.555 and a p-value of 0.000, so the hypothesis is accepted. On the other hand, the effect of transformational leadership (X) on job performance (Y) is not significant, with a p-value of 0.320, so this hypothesis is rejected. Transformational leadership (X) has a significant effect on work engagement (Z) (O = 0.816, p = 0.000), but does not contribute directly to job performance (Y) or its interaction with job autonomy (M). Work engagement (Z) also does not show a significant effect on job performance (Y) or its interaction with job autonomy (M), with p-values higher than 0.05.

These findings have important implications for organizational management in designing strategies to improve employee performance. Focusing on increasing job autonomy can be an effective approach to improving performance, while the role of transformational leadership needs to be emphasized in improving work engagement. Although transformational leadership has been shown to influence work engagement, a stronger strategy is needed to link engagement to improved performance. In addition, the results suggest the need for more attention to other variables that can strengthen the relationship between transformational leadership and job performance, such as work environment factors or organizational support.

For future research, it is recommended that researchers consider additional variables that may influence the relationship between transformational leadership, work engagement, and job performance, such as social support, organizational culture, or individual factors such as motivation and job satisfaction. Longitudinal research is also recommended to gain a deeper understanding of how these relationships develop over time. In addition, conducting research across different sectors or types of organizations can provide greater insight into the generalizability of these findings and their practical application in improving employee performance.

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