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PATH ANALYSIS OF THE INFLUENCE OF JOB CHARACTERISTICS, PERSONALITY, AND JOB SATISFACTION ON THE PERFORMANCE OF COMMUNITY HEALTH CENTER NURSES IN SOUTH TANGERANG CITY

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Abstract

This study aims to analyze strategies for improving the performance of community health center nurses in South Tangerang City by strengthening job characteristics, personality, and job satisfaction. The study used a quantitative approach with a survey method involving 141 nurses from seven subdistricts, including Serpong, North Serpong, Pondok Aren, Ciputat, East Ciputat, Pamulang, and Setu. Data analysis was performed using path analysis to test the direct and indirect effects between variables. The results showed that job characteristics, personality, and job satisfaction had a direct, positive, and significant effect on nurse performance. Job characteristics and personality also had a direct, positive, and significant effect on job satisfaction. Furthermore, job satisfaction was found to mediate the relationship between job characteristics and personality on performance, although the mediating effect was not stronger than the direct effect.

These findings confirm that job satisfaction plays an important role as a mechanism in bridging individual and job factors with performance, although its effectiveness as a mediator is partial. Theoretically, this study expands the understanding of the causal relationship between variables in the context of primary health care. Practically, the research results can be used as a basis for Puskesmas management to design policies to improve nurse performance through strengthening job design, personality development, and strategies to increase job satisfaction.

Keywords: Nurse performance, Job characteristics, Personality, Job satisfaction.

INTRODUCTION

Community Health Centers (*Puskesmas*) are one of the spearheads of the national health care system. Puskesmas function as primary health care providers that prioritize promotive and preventive efforts, without neglecting curative and rehabilitative efforts (Anita et al. 2019). Their existence is very strategic because they play a role in improving the health status of the community, bringing services closer, and supporting the achievement of health development goals. In South Tangerang City, there are 31 Puskesmas spread across seven sub- districts, serving more than 1.3 million residents. In the Puskesmas organizational structure, nurses occupy an important position, as they make up around 22% of the total health workforce. The role of nurses is not limited to providing nursing care, but also includes health education, counseling, and the implementation of public health programs. With such a wide range of duties, the performance of nurses is a crucial factor that determines the quality of health services at Puskesmas (Abdullah et al. 2021) . Optimal performance not only has an impact on patient satisfaction and service quality improvement, but also influences the success of Puskesmas in realizing a better vision for public health.

Despite the significant contribution of nurses, a preliminary survey shows that there are still performance issues. Approximately 26% of nurses in Puskesmas in the South Tangerang City area experience obstacles in terms of quantity, quality, efficiency, creativity, and work effectiveness. In

terms of job characteristics, the challenges that arise include high workloads, lack of task variety, limited autonomy, and minimal constructive feedback. This is in line with the views of Cotič et al. (2025) that skill variety, task clarity, task significance, autonomy, and feedback are important dimensions in job characteristics that influence motivation and performance. Previous research conducted by Giawa & Tinambunan(2022) explains that job characteristics have an influence on nurse performance, meaning that the more positive the job characteristics, the higher the performance. The results of this study are in line with the results of Permatasari's research (2022) , which states that job characteristic variables have a positive and significant effect on nurse performance, meaning that the better the job characteristics of nurses, the higher their performance will be.

Meanwhile, from a personality perspective, each nurse possesses different psychological traits that influence their communication style, cooperation, and ability to adapt in high-pressure situations. The Big Five Personality dimensions extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience are factors proven to influence work behavior and performance effectiveness (Hasanah et al. 2022)). The results of Widyawati et al.'s research (2022) also show that personality has a significant effect on nurses' performance.

In addition to job characteristics and personality, job satisfaction also plays an important role in determining nurses' performance. Job satisfaction reflects positive emotional conditions that arise when nurses feel that their work provides adequate rewards, supportive working conditions, opportunities for promotion, and good interpersonal relationships (Katebi et al. 2022; Wong 2024). Research by Romadhani et al. (2022) shows that job satisfaction has a direct influence on performance and can even act as a mediating variable that bridges the relationship between individual factors and organizational performance. This is also in line with research conducted by Augustine et al. (2022), which shows that job satisfaction has a positive and significant effect on nurse performance.

However, most of these studies only examine the direct relationship between variables partially. There are still limited studies that integrate job characteristics, personality, and job satisfaction into a comprehensive causal model to explain nurse performance, especially in the context of Puskesmas in urban areas such as South Tangerang. In fact, nurse performance is the result of a complex interaction between internal factors (personality and job satisfaction) and external factors (job characteristics). Therefore, research is needed that can simultaneously test the direct and indirect relationships between these variables. Therefore, this study uses path analysis to identify the direct and indirect s of job characteristics and personality on nurse performance with job satisfaction as a mediating variable.

Theoretically, this study contributes to the development of human resource management studies, particularly in the health sector, by examining the integration of job factors, individual factors, and job satisfaction as determinants of performance. Practically, the results of this study are expected to provide input for Puskesmas management and local governments in designing strategies to improve nurse performance, such as strengthening job design, increasing job satisfaction, and fostering

positive personalities that support work effectiveness.

METHOD

This study is a quantitative study using a survey method to examine the causal relationship between job characteristics, personality, job satisfaction, and nurse performance. The analysis was conducted using path analysis to determine the direct and indirect effects between variables. The research population consisted of all nurses working at Puskesmas in the South Tangerang City area, totaling 217 people. The sampling technique used proportional random sampling with the Slovin formula at a 5% error rate, resulting in 141 respondents spread proportionally across seven subdistricts.

Data collection was conducted through a questionnaire using a Likert scale. The job characteristic variable (X_1) was measured through five dimensions, namely skill variety, task clarity, task significance, autonomy, and feedback. The personality variable (X_2) included emotional stability, extraversion, agreeableness, conscientiousness, and openness to experience. The job satisfaction variable (Y) included aspects of salary, supervision, coworkers, working conditions, promotion opportunities, fairness, and job security. The nurse performance variable (Z) is measured based on quantity, quality, creativity, effectiveness, and work efficiency. The research instrument has been tested for validity using Pearson's product moment correlation and reliability using Cronbach's Alpha, with the results of all statement items declared valid and reliable ($\alpha > 0,70$).

The collected data were analyzed in several stages. First, a descriptive analysis was conducted to describe the characteristics of the respondents and the distribution of the research variables. Next, prerequisite tests were conducted, including tests of normality, homogeneity, significance, and regression linearity. The final stage was path analysis to test the hypothesis regarding the direct and indirect effects of job characteristics and personality on nurse performance, with job satisfaction as the mediating variable.

RESULTS AND DISCUSSION

Research Data Description

In this study, there were four main variables analyzed descriptively, namely Nurse Performance (Z) as the dependent variable; Job Characteristics (X_1) and Personality (X_2) as independent variables; and Job Satisfaction (Y) as the intervening variable. The results of the descriptive analysis for each variable are presented in Table 1.

Table1 Summary of Descriptive Statistics for Research Variables

No	Cal Statistics Measure	Performance (Z)	Job Satisfaction (Y)	Job Characteristics (X_1)	Personality (X_2)

No	Cal Statistics Measure	Performance (Z)	Job Satisfaction (Y)	Job Characteristics (X_1)	Personality (X_2)
1.	Number of Respondents (*Count*)	141	141	141	141
2	Mean	129.24	129.13	149.50	121.72
3.	Median	109.5	118	135.5	111.5
4.	Mode	128	132	147	120
5.	Standard Deviation	18.11	16.35	17.44	14.43
6	Variance	327.84	267.22	304.22	208.41
7	Range	101	86	89	77
8.	Minimum	59	75	91	73
9.	Maximum	160	161	180	150
10.	Sum	18223	18208	21,080	17163

Prerequisite Tests

Prerequisite tests are conducted to ensure data suitability prior to path analysis. The tests used include normality tests, homogeneity tests, and linearity tests.

1. Normality Test

The normality test is performed using the Chi-Square method by comparing the observed frequency (fo) and the expected frequency (fh) based on the theoretical normal distribution. This test uses the following formula:

$$X^2 = \sum \frac{(f_o - f_h)^2}{f_h}$$

In this study, the number of interval classes used is 6, so the degrees of freedom (df) are calculated using the following formula:

$$\text{dk} = k - 1 = 6 - 1 = 5$$

With a significance level of α=0.05, based on the Chi-Square table, the calculated test statistic is X2=11.070X^2 = 11.070X^2=11.070, indicating the observed data's deviation from expected frequencies. According to Supardi (2013), the basis for decision making in normality tests is as follows:

H_o: The data is normally distributed

H_1: The data is not normally distributed

with the testing criteria:

- If $X^2 < X^2_{\text{tab}}$, accept H_0.
- If $X^2 > X^2_{\text{tab}}$, reject H_0.

The overall results of the normality test can be seen at2 .

Table 2 Summary of Normality Test Results

Variable	X^2_{hitung}	X^2_{tabel}	Decision (H_0)	Conclusion
Performance (Z)	3,530	11,070	Accepted	Normally Distributed
Job Satisfaction (Y)	4,303	11,070	Accepted	Normally Distributed
Job Characteristics (X_1)	4,462	11,070	Accepted	Normally Distributed
Personality (X_2)	4,608	11,070	Accepted	Normally Distributed

2. Homogeneity Test

The basis for decision making in the Homogeneity Test is carried out using the F test procedure according to (Supardi, 2016) by determining the significance level α=0.05 to test the hypothesis:

H0:$\sigma^2 = \sigma^2$ (variance 1 is equal to variance 2 or homogeneous)

H1:$\sigma^2 \neq \sigma^2$ (variance 1 is not equal to variance 2 or is not homogeneous)

$$F_{\text{hitung}} = \frac{\text{varian terbesar}}{\text{varian terkecil}}$$

(Supardi U.S., 2026:143)

With the following testing criteria:

1. Accept H0if F-calculated < F-table; and
2. Reject H0if F-calculated > F-table

The overall results of the homogeneity test can be seen in3

Table 3 Summary of Homogeneity Test Results

Variable	Fcalculated	Ftable	Decision (H_0)	Conclusion
X1 - Z	1.077	2.67	Accepted	Homogeneous
X2 - Z	1,573	2.67	Accepted	Homogeneous
Y - Z	1,227	2.67	Accepted	Homogeneous
X1 - Y	1.138	3.06	Accepted	Homogeneous
X2 - Y	1.282	3.06	Accepted	Homogeneous

3. Linearity Test

The linearity test aims to determine whether the relationship between the independent variable and the dependent variable is linear. The testing criteria are: if the Sig. Linearity value is < 0.05, then the relationship is considered linear. Conversely, if Sig. Linearity is > 0.05, then the relationship is not linear. The overall results of the linearity test can be seen in:

Table 4 Summary of Linearity Test Results

Variable	Sig. Linearity	Sig. Level	Conclusion
X_1 over Z	0.022		Linear
X_2 over Z	0.018	0.05	Linear
Y over Z	0.048		Linear

Path Analysis

Path analysis is used to determine the direct and indirect effects of independent variables on dependent variables, with job satisfaction as the intervening variable.

1. Path Relationship Model Between Variables in Substructure 1

The relationship model between variables in substructure-1 consists of one endogenous variable, namely Performance (Z), and three exogenous variables, namely Job Characteristics (X_1), Personality (X2), and Job Satisfaction (Y), as well as one residual variable, namely . The path model in substructure-1 is as follows:

$$Z = \beta_{Z1}X_1 + \beta_{Z2}X_2 + \beta_{Z3}Y + \varepsilon_1$$

The results of the path coefficient calculations in Substructure 1 can be seen in

Table 5 Path Coefficient Values in Substructure-1

Performance	Unstandardized Coefficients		Standardized Coefficients	t	P > t
	B	Std. Error	Beta		
Job Characteristics	0.338	0.071	0.409	4.735	0.000
Personality	0.251	0.040	0.258	6.240	0.000
Job Satisfaction	0.316	0.085	0.343	3.720	0.000

Table 6 Model Summary Substructure-1

Model Summary				
Model	R	R Square	Adjusted R-Square	Standard Error of the Estimate
1	0.944	0.891	0.888	4.50893

Based on table 5, it is known that Job Characteristics have a positive effect on Performance with a coefficient of $\beta = 0.409$. Personality also has a positive effect on Performance with a coefficient of $\beta = 0.258$. Job Satisfaction also has a positive effect on Performance with a coefficient of $\beta = 0.343$. Thus, the path model in substructure-1 is as follows:

$$Z = 0{,}409\ X_1 + 0{,}258\ X_2 + 0{,}343\ Y + 0{,}109$$

At table 6 it can be seen that the R-square output value is 0.891. This means that 89.1% of the

Performance variable (Z) can be explained by the Job Characteristics (X_1), Personality (X_2), and Job Satisfaction (Y) variables, so that the remaining 10.9% orε_1 = 0.109 is influenced by other variables that are not included in this study. Figure1

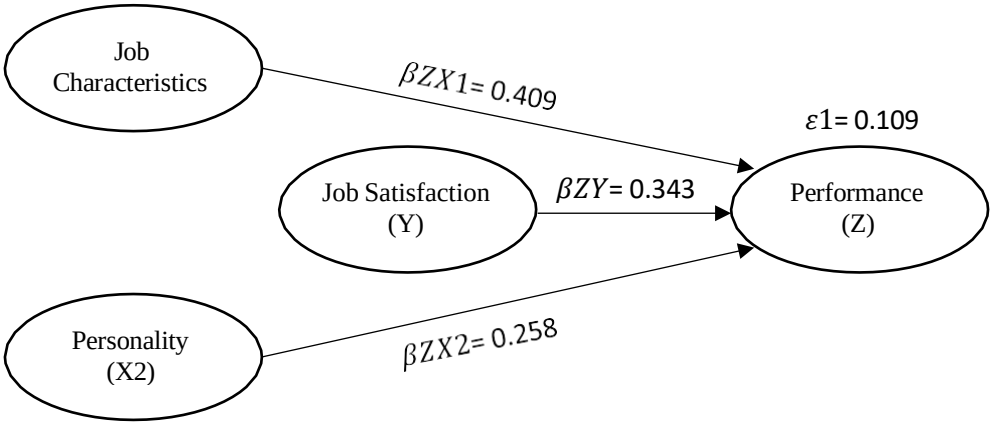

Figure 1 Empirical Causal Relationship Model Between Variables in Substructure-1

2. Path Relationship Model Between Variables in Substructure 2

The model of relationships between variables in substructure-2 consists of one endogenous variable, namely Job Satisfaction (Y), and two exogenous variables, namely Job Characteristics (X_1) and Personality (X_2), as well as one residual variable, namely . Based on this relationship, the path model in substructure-2 is as follows:

$$Y = \beta_{Y1}X_1 + \beta_{Y2}X_2 + \varepsilon_2$$

The results of the path coefficient calculations in substructure-1 can be seen in 7

Table 7 Path Coefficient Values in Substructure-2

Job Satisfaction	Unstandardized Coefficients		Standardized Coefficients	t	P > t
	B	Std. Error	Beta		
Job Characteristics	0.753	0.032	0.837	23.480	0.000
Personality	0.167	0.038	0.158	4.435	0.000

Table 8 Model Summary Substructure-2

Model Summary				
Model	R	R Square	Adjusted R-Square	Standard Error of the Estimate
2	0.952	0.907	0.905	4.52442

Based on table 7 , it is known that Job Characteristics have a positive effect on Job Satisfaction with a coefficient of β = 0.837. Personality also has a positive effect on Job Satisfaction with a coefficient of β = 0.158. Thus, the path model in sub-structure 2 is as follows:

$$Y = 0{,}837\ X_1 + 0{,}158\ X_2 + 0{,}093$$

On table 8 , it can be seen that the *R-square* output value is 0.907. This means that 90.7% of the Job Satisfaction variable (Y) can be explained by the Job Characteristics variable (X_1) and Personality variable (X_2), while the remaining 9.3% orε_2 = 0.093 is influenced by other variables that are not included in this study. The path diagram for Substructure-2 is presented in Figure 2 at Figure 2

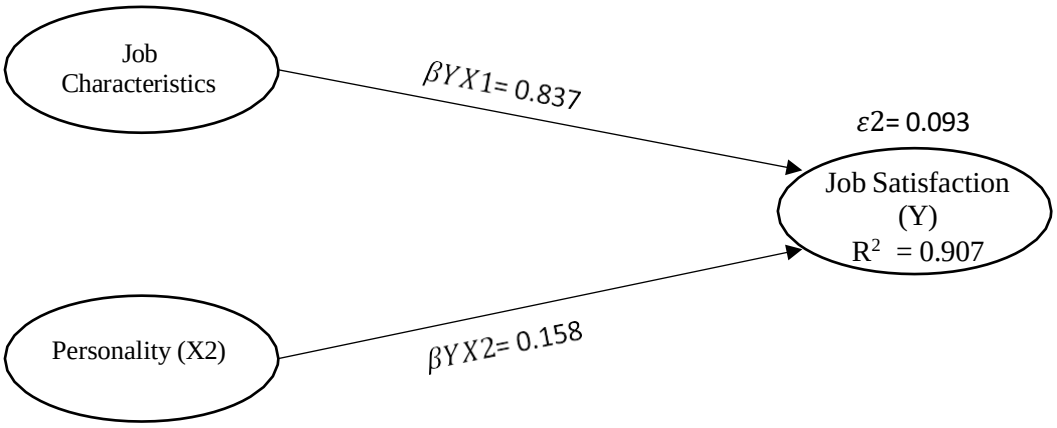

Figure2 Empirical Causal Relationship Model Between Variables in Substructure-2

3. Indirect Effect Analysis

Indirect effect analysis was conducted to determine the extent to which job satisfaction mediates the relationship between job characteristics and personality on nurse performance. The results of the indirect effect calculation were obtained using *the Indirect Effect Calculator for Mediation Models.* Furthermore, to confirm whether the mediator variable (Y) actually significantly influences the independent variable (X_1) on the dependent variable (Z), *the Sobel Test Calculator for the Significance of Mediation* was used.

Table 9. Sobel Test Results

Variable	Indirect Effect	Sobel Test ($Z_{calculated}$)	Z_{table}
X1 - Z	0.287	3.988	1.65
X2 - Z	0.054	2.896	1.65

Based on table 9, it can be seen that the indirect effect of the Job Characteristics (X_1) variable on Performance (Z) through Job Satisfaction (Y) is 0.287, which means that there is a positive indirect effect of Job Characteristics on Performance through Job Satisfaction. The Sobel test value or $Z_{(calculated)}$ is 3.988, which is greater than $Z_{(table)}$ 1.65 at a significance level of 0.05. Thus, it can be concluded that the Job Satisfaction (Y) variable can be a mediator in bringing the influence of the Job Characteristics (X_1) variable on the Performance (Z) variable. Furthermore, it is known that the indirect effect of the Personality variable (X_2) on Performance (Z) through Job Satisfaction (Y) is 0.054, which means that there is a positive indirect effect of Personality on

Performance through Job Satisfaction. The Sobel test value or $Z_{(calculated)}$ is 2.896, which is greater than $Z_{(table)}$ 1.65 at a significance level of 0.05. Thus, it can be concluded that the Job Satisfaction variable (Y) can be a mediator in bringing the influence of Personality (X_2).

4. Analysis of Direct and Indirect Effects

The magnitude of the direct and indirect effects on the Nurse Performance variable (Z) is presented in table 10.

Table 10 Direct and Indirect Effects on Nurse Performance

Variable	**Effect**		**Conclusion**
	Direct	**Indirect Through Y**	
Job Characteristics (X_1)	0.409	0.287	Direct Effect (0.409) > Indirect Effect (0.287)
Personality (X_2)	0.258	0.054	Direct Effect (0.258) > Indirect Effect (0.054)
Job Satisfaction (Y)	0.343	-	Direct Effect (0.343) > Indirect Effect (0)

Table 10 shows that the coefficient of the direct effect of Job Characteristics on Performance is β = 0.409, while the indirect effect through Job Satisfaction is 0.287. This comparison shows that the indirect effect value is smaller than the direct effect (0.287 < 0.409). This means that the Job Satisfaction variable does not function effectively as an intervening variable in the relationship between Job Characteristics and Performance.

Furthermore, the direct effect of Personality on Performance is β = 0.258, while the indirect effect through Job Satisfaction is only 0.054. This means that the indirect effect is smaller than the direct effect (0.054 < 0.258), so that Job Satisfaction also does not function effectively as an intervening variable in the relationship between Personality and Performance.

Hypothesis Testing

Table 10 Hypothesis Testing

Hypothesis	**Path**	**Path Coefficient**	**Statistical Test**	**Decision**	**Conclusion**
1	Job Characteristics (X_1) on Performance (Z)	0.409	H_0: $\beta_{X1Z} \leq 0$ H_1: $\beta_{X1Z} > 0$	H0 rejected H1 accepted	There is a significant positive direct effect of Job Characteristics on Nurse Performance
2	Personality (X_2) on Performance (Z)	0.258	H_0: $\beta_{X1Z} \leq 0$ H_1: $\beta_{X1Z} > 0$	H0 rejected H1 accepted	There is a significant positive direct effect

					of Personality on Nurse Performance
3	Job Satisfaction (Y) on Performance (Z)	0.343	H_0: $\beta_{X1Z} \leq 0$ H_1: $\beta_{X1Z} > 0$	H0 rejected H1 accepted	There is a significant positive direct effect of Job Satisfaction on Nurse Performance
4	Job Characteristics (X_1) on Job Satisfaction (Y)	0.837	H_0: $\beta_{X1Z} \leq 0$ H_1: $\beta_{X1Z} > 0$	H0 rejected H1 accepted	There is a significant positive direct effect of Job Characteristics on Job Satisfaction
5	Personality (X_2) on Job Satisfaction (Y)	0.158	H_0: $\beta_{X1Z} \leq 0$ H_1: $\beta_{X1Z} > 0$	H0 rejected H1 accepted	There is a significant positive direct effect of Personality on Job Satisfaction
6	Job Characteristics (X_1) on Performance (Z) through Job Satisfaction (Y)	0.287	H_0: $\beta_{X1Z} \leq 0$ H_1: $\beta_{X1Z} > 0$	H0 rejected H1 accepted	There is a significant positive direct effect of Job Characteristics on Nurse Performance through Job Satisfaction
7	Personality (X_2) on Performance (Z) through Job Satisfaction (Y)	0.054	H_0: $\beta_{X1Z} \leq 0$ H_1: $\beta_{X1Z} > 0$	H0 rejected H1 accepted	There is a significant positive direct effect of Personality on Nurse Performance through Job Satisfaction

CONCLUSION

This study has successfully identified strategies to improve the performance of community health center nurses in the South Tangerang City area, which covers seven subdistricts, namely Serpong, North Serpong, Pondok Aren, Ciputat, East Ciputat, Pamulang, and Setu. The results of the study show that there is a direct, positive, and significant influence of job characteristics, personality, and job satisfaction on performance. This study also found that job characteristics and personality have a direct positive and significant effect on job satisfaction.

The mediation test results show that job characteristics have a positive and significant indirect effect on performance through job satisfaction. However, the direct effect of job characteristics on

performance is greater than the indirect effect, which means that job satisfaction does not function effectively as an intervening variable in this relationship. Similar findings were also obtained in the path from Personality to Performance through Job Satisfaction. Although the indirect effect was proven to be significant, the magnitude of the direct effect of Personality on Performance was more dominant, so that Job Satisfaction did not function optimally as a mediating variable.

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