

The Influence of Leadership, Competence and Work Environment on Performance of Health Office Employees in Indonesia

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ABSTRACT

In 2022, the performance evaluation of the realization of the public health sector in the Family Intervention program was 45.14% out of 50%. This situation emphasizes the importance of improving program performance by strengthening Human Resources for Health. The purpose of this study was to determine the influence of leadership, competence, and work environment on the performance of Health Service employees in Indonesia. The method used in this study was a meta-analysis study obtained a population of 1798 studies. The sample obtained was 13 studies using the prism method and has been tested using the JBI instrument. The results of this study analysis used JASP 0.17.2.1 software that focuses on Effect Size through Forest Plot and Funnel Plot. The results of the analysis are leadership influences the performance of Health Service employees (p-value <0.001), competence influences the performance of Health Service employees (p-value <0.001), and the work environment influences the performance of Health Service employees (p-value 0.008). The effect size of leadership is (0.195), the effect size of competence is (0.223), and the effect size of the work environment is (0.228). The variable with the greatest effect on the performance of Indonesian Health Service employees is the work environment.

Keywords : *Leadership, Competence, Work Environment, Performance, Health Office*

INTRODUCTION

Indonesia's health situation in 2020 (2020 National Health Working Meeting) focused on five key health issues: Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR), Stunting Control, Disease Prevention and Control, GERMAS (National Health Movement), and Health System Governance.

Based on the 2022 Government Agency Performance Accountability Report (LAKIP) of the Directorate General of Public Health, two of the seven indicators failed to achieve their targets. One of these indicators was districts/cities that had not implemented family health interventions, with a realization of 45.14% of the 50% target. The results of this performance measurement identified weaknesses in the Public Health Program, including the uneven and inadequate distribution and competency of human resources, weak adherence to program standards, suboptimal internal program planning, and limited facilities

and infrastructure. Based on data from the 2022 Public Health Commission as of January 27, 2023, districts/cities with low performance in implementing family health interventions in 2022 included West Papua (0%), Yogyakarta Special Region (0%), East Nusa Tenggara (4.55%), Riau (8.33%), Maluku (9.09%), Bengkulu (10%), Southeast Sulawesi (11.76%), and North Sumatra (33.33%).

The measurement of the performance of the Public Health Program is interconnected with the measurement or reporting of improvements in the quality of healthcare workers. Based on data from the 2022 Performance Accountability Evaluation Worksheet of the Directorate for Health Workforce Quality Improvement, several performance evaluation results still need improvement, including suboptimal performance planning documents (70%), suboptimal performance report documents that meet

standards (60%), and Performance Accountability Evaluations in the implementation of SAKIP (Standardized Health Insurance Program) (50%). The recommendations outlined in the report include formulating outcome-based performance indicators, completing the performance report for analysis, and following up on recommendations from the SAKIP evaluation for future performance improvement.

Based on this, Kasmir's (2016) theory identifies 13 factors that influence performance, two of which are leadership and the work environment. Syamsul Arifin argues that Ainsworth, Smith, and Millership's (2002) theory also states that performance is derived from competence and the work environment.^{1,2}

However, previously published studies have shown discrepancies in the results of these studies. For example, a study by Muhammad Arifa (2022) found that leadership significantly influences performance (p-value < 0.001), while a study by Yesi Daniel Tri Baskoro (2019) found that leadership did not significantly influence

performance (p-value > 0.588).^{3,4} Research by Sarboini (2018) found that competence significantly influences performance (p-value < 0.013), while research by Roiman (2022) found that competence does not significantly influence performance (p-value > 0.172). Furthermore, research by Ucih M. (2022) found that the work environment significantly influences performance (p-value < 0.005), while research by Aprianis (2019) found that the work environment does not significantly influence performance (p-value > 0.073).^{6,7,8}

These various phenomena observed in previous studies will serve as the basis for a more in-depth analysis of the influence of leadership, competence, and the work environment on the performance of Health Service employees in Indonesia. Based on the description above, the purpose of this study is to analyze and explain the influence of leadership, competence, and the work environment on the performance of Health Service employees in Indonesia, based on published studies.

METHOD

The Systematic Review method with the type of Meta-Analysis research is a method that identifies, evaluates and interprets all relevant research results related to a particular topic or phenomenon of concern. The data collection was carried out in May-June 2023 with the stage of conducting data searches through search engines (Google Scholar, Garuda Portal, Science Direct and Research Gate).

In this study using the SPIDER method as a method to formulate research questions, among others

- S (Sample) for Health Office Employees in Indonesia.
- PI (Phenomenon of Interest) for There are gaps / differences in research results related to leadership, competence and work environment on performance.
- D (Design of Study) for Cross Sectional.
- E (Evaluation Type) for the final result is whether there is an influence of leadership, competence and work environment on the performance of Health Office employees in Indonesia.
- R (Research Type) for Quantitative research from national and international journals.

The operational definitions used in this meta-analysis study include the following:

- Leadership is an activity that influences others to work with the aim of achieving the targets of the organization.
- Competence is the knowledge, understanding, skills / abilities, attitudes possessed by the employee.
- The work environment is a physical environment (lighting, air temperature, noise, space), a non-physical environment (relationships with colleagues and relationships with superiors).
- Employee Performance is the result or work performance of employees that has been achieved for the program or organizational goals.

At the screening stage the data was carried out using the prism method with a population of 1798 obtained from sources Google Scholar (1520), Garuda Portal (51), Science Direct (131) and Research Gate (96). After the screening stage, the data will be tested for data feasibility using the JBI instrument (questions > 50% answered with "Yes", the data quality is appropriate) and through predetermined inclusion criteria, in order to obtain 13 studies that meet these criteria. Following are the results of the data feasibility analysis using the JBI instrument:

Table 1. Analysis Results with the JBI Instrument

Article	Question To								Total JBI	Quality Evaluation
	1	2	3	4	5	6	7	8		
Aprianis (2019)	Yes	Yes	Yes	Yes	No	No	Yes	Yes	6/8 (75%)	Good/ Decent
Sarboini, (2018)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	7/8 (87.5%)	Good/ Decent

Article	Question To								Total JBI	Quality Evaluation
	1	2	3	4	5	6	7	8		
Ucuh M., (2022)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	7/8 (87.5%)	Good/ Decent
Yulianto HN, (2022)	Yes	Yes	Yes	Yes	No	No	Yes	Yes	6/8 (75%)	Good/ Decent
Muh. Arifa, (2022)	Yes	Yes	Yes	Yes	No	No	Yes	Yes	6/8 (75%)	Good/ Decent
Ni Made Dewi K. (2019)	Yes	Yes	Yes	Yes	No	No	Yes	Yes	6/8 (75%)	Good/ Decent
Roman, (2021)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	7/8 (87.5%)	Good/ Decent
Supardi (2020)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	7/8 (87.5%)	Good/ Decent
Basuki SR (2020)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	7/8 (87.5%)	Good/ Decent
Yesi DT B, (2019)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	7/8 (87.5%)	Good/ Decent
Prima S.,(2022)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	7/8 (87.5%)	Good/ Decent
Rafaela WH, (2022)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	7/8 (87.5%)	Good/ Decent
Dewi R., (2022)	Yes	Yes	Yes	Yes	No	No	Yes	Yes	6/8 (75%)	Good/ Decent

The studies presented in this study were analyzed again to determine the effect size of each study with the data obtained (sample size, t-count, p-value and 95% confidence level). These data are converted to r (correlation coefficient) and then entered in the z (Fisher) formula assisted by JASP 0.17.2.1 software.

The results of data analysis in this meta-analysis include effect size analysis for each study, heterogeneity test analysis to determine the summary effect of the entire study whether using the Fixed Effect Model or Random Effect Model, forest plot analysis to interpret the results of the study and funnel plot analysis to determine whether there is publication bias or not.

RESULTS AND DISCUSSION

Table 2. Summary of Effect Size (ES) Values of Studies Included in the Meta-Analysis

No	Researcher	Sample	p-values	t	r	z = ES	SE
1	Sarboini (2018)	84	0.031	2,193	0.235	0.240	0.111
2	Yesi DTB (2019)	74	0.588	0.554	0.065	0.065	0.119
3	Supardi (2020)	104	0.024	2,322	0.224	0.228	0.100
4	Muh. Arifa (2022)	68	0.001	2,638	0.309	0.319	0.124
5	Rafaela (2022)	49	0.633	0.482	0.070	0.070	0.147
Total		379					

A. Leadership

Table 3. Characteristics of Assessment of the Influence of Leadership on the Performance of Health Service Employees in Indonesia

No	Researcher	Sample	p-value	t	r	z=ES	SE
1	Sarboini (2018)	84	0.031	2,193	0.235	0.240	0.111
2	Yesi DTB (2019)	74	0.588	0.554	0.065	0.065	0.119

No	Researcher	Sample	p-value	t	r	z=ES	SE
3	Supardi (2020)	104	0.024	2,322	0.224	0.228	0.100
4	Muh. Arifa (2022)	68	0.001	2,638	0.309	0.319	0.124
5	Rafaela (2022)	49	0.633	0.482	0.070	0.070	0.147
Total		379					

The data analysis obtained 5 (five) studies with different effect sizes in each study. This is in line with Kasmir's (2016) theory that one of the factors that influences performance is

leadership. The highest effect size is the study of Muh. Arifa with ES = 0.319 and the lowest is the study from Yesi DTB with ES = 0.065.^{3,4}

Table 4. Leadership Heterogeneity Test Table on Performance

Residual Heterogeneity Estimates	
	Estimates
τ^2	0.009
τ	0.093
I^2 (%)	38,440
H^2	1624

In the Higgins value heterogeneity test (I^2) if < 50% use the Fixed Effect Model and if > 50% use the Random Effect Model. In the JASP software, the value of I^2 = 38.44% means that

the results of the heterogeneity test in the table above are <50% so that to determine the summary effect using the Fixed Effect Model analysis model.

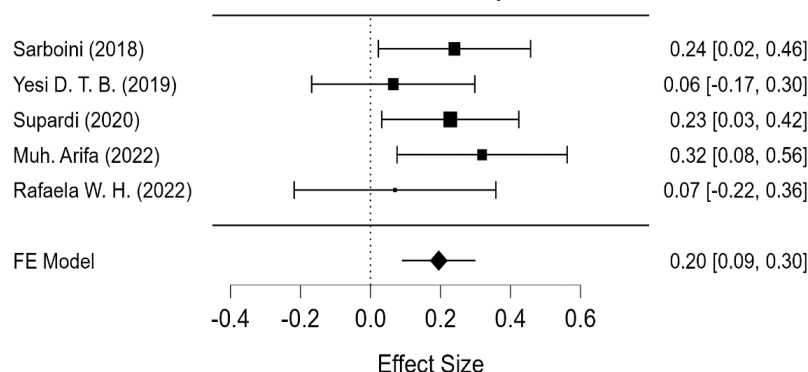


Figure 1. Graph of Growth Rate of Agrarian Society

Table 3. Leadership Coefficient Value on Performance

Coefficients		95% Confidence Intervals				
	Estimates	Standard Error	z	p.s	Lower	Upper
intercepts	0,195	0,052	3,718	<,001	0,092	0,298

The overall results of data analysis from the 5 (five) studies showed a p-value < 0.001, meaning that there is a significant influence of leadership on the performance of Health Service employees in Indonesia. The estimated Effect Size value obtained is 0.195, meaning that the influence of leadership on the performance of Health Service employees in Indonesia is still weak/small (Cohen's d effect size category with a value of 0.2 = weak/small/low, 0.5 = medium and 0.8 = strong/large/high). The influence of

leadership that is still weak/small on performance can be caused by a leader not being optimal in carrying out his duties and functions, however, if the leadership variable is simultaneous with other variables such as Supardi's research, namely the influence of leadership, compensation, discipline and competence together provide a large effect (ES: 1.238) on the performance of Health Service employees in Indonesia. Picture of Leadership Funnel Plot on Performance.⁹

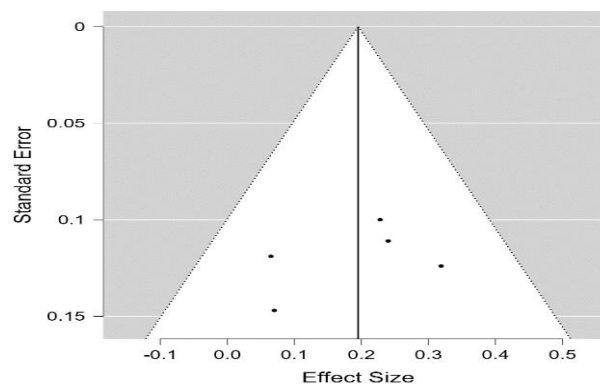


Figure 2. Funnel Plot Image of Leadership on Performance

Image above shows an asymmetry in the plot, meaning that this research has publication bias, with 2 (two) plots on the left side and 3 (three) plots on the right side.

Publication bias in this meta-analysis cannot be avoided because it can be caused by sample bias, measurement bias or research result bias.

B. Competence

Table 4. Characteristics of Assessment of the Effect of Competence on the Performance of Health Office Employees in Indonesia

No	Researcher	Sample	p-values	t	r	z = ES	SE
1	Sarboini (2018)	84	0.013	2,533	0.269	0.276	0.111
2	Aprianis (2019)	95	0.000	3,360	0.329	0.342	0.104
3	Supardi (2020)	104	0.745	0.222	0.022	0.022	0.100
4	Basuki SR (2020)	103	0.080	1,771	0.174	0.175	0.100
5	Muh. Arifa (2022)	68	0.017	2,136	0.254	0.260	0.124
6	Prima S. (2022)	100	0.002	2,690	0.262	0.268	0.102
7	Rafaela (2022)	49	0.004	2,350	0.324	0.336	0.147
8	Romman (2022)	65	0.172	1,383	0.172	0.173	0.127
Total Sample		668					

The data analysis obtained 8 (eight) studies with different effect sizes in each study. The highest effect size is the study from Aprianis with ES = 0.342 and the lowest is the study from Supardi with ES = 0.022. The data

analysis obtained 8 (eight) studies with different effect sizes in each study. The highest effect size is the study from Aprianis with ES = 0.342 and the lowest is the study from Supardi⁹ with ES = 0.022.^{6,9}

Table 5. Competency Heterogeneity Test on Performance

Residual Heterogeneity Estimates		95% Confidence Intervals	
	Estimates	Lower	Upper
τ^2	0.001	0.000	0.034
τ	0.034	0.000	0.185
I^2 (%)	8,623	0.000	73,133
H^2	1,094	1,000	3,722

In the Higgins value heterogeneity test (I^2) if < 50% use the Fixed Effect Model and if > 50% use the Random Effect Model. In the JASP software, the value of I^2 = 8.62% means that the

results of the heterogeneity test in the table above are <50% so that to determine the summary effect using the Fixed Effect Model analysis model.

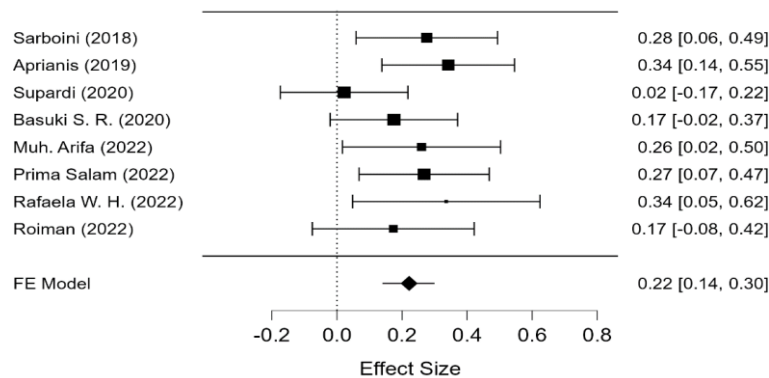


Figure 3. Forest Plot Image of Competency on Performance

Table 6. Competency Coefficient Value on Performance

Coefficients						
95% Confidence Intervals						
	Estimates	Standard Error	z	p.s	Lower	Upper
intercept	0.223	0.041	5.382	< .001	0.142	0.304

The overall results of data analysis from the 8 (eight) studies showed a p-value <0.001, meaning that there is a significant influence of competence on the performance of Health Service employees in Indonesia. This is in line with the theory of Ainsworth, Smith and Millership (2002) that performance is obtained from competence. The estimated Effect Size value obtained is 0.223, meaning that the influence of competence on the performance of Health Service employees in Indonesia is still weak/small (Cohen's d effect size category with a value of 0.2 = weak/small/low, 0.5 = medium

and 0.8 = strong/large/high). Competence that has a weak/small effect on performance can be caused by the lack of attitude in employees to carry out their duties and there are still some employees who do not match their job positions. However, if the competence is simultaneous with other variables such as Rafaela's research that competence, organizational climate, job satisfaction, organizational commitment, work discipline, work motivation, leadership and career development have a large influence effect (1.038) on the performance of Health Service employees in Indonesia.^{10,12,13}

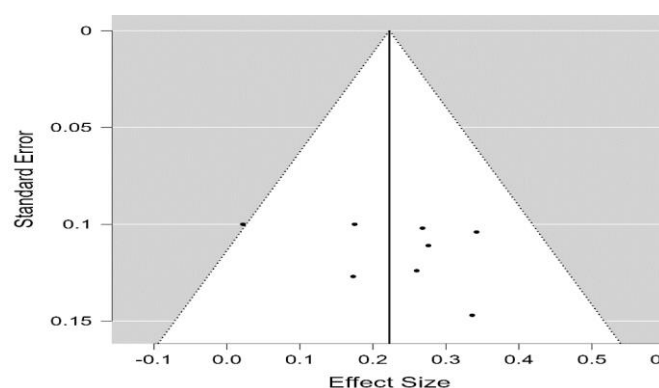


Figure 4. Funnel Plot Image of Competency and Performance

Image above shows an asymmetry in the plot, meaning that this research has publication bias with 3 (three) plots on the left side and 5 (five) plots on the right side. Publication bias in

this meta-analysis cannot be avoided because it can be caused by sample bias, measurement bias or research result bias.

C. Work Environment

Table 7. Characteristics of the Assessment of the Effect of the Work Environment on the Performance of Health Office Employees in Indonesia

No	Researcher	Sample	p-values	t	r	z = ES	SE
1	Aprianis (2019)	95	0.073	1,857	0.189	0.191	0.104
2	Yesi DTB (2019)	74	0.001	3,558	0.387	0.408	0.119
3	Ucih M. (2022)	60	0.005	2,917	0.358	0.374	0.132
4	Yulianto (2022)	88	0.225	1.223	0.131	0.132	0.108
5	Dewi R. (2022)	96	0.004	2,924	0.289	0.297	0.295
6	Prima S. (2022)	100	0.124	-1,550	-0.155	-0.156	0.102
7	Ni Made (2019)	107	0.000	4,440	0.398	0.421	0.098
8	Aprianis (2019)	95	0.073	1,857	0.189	0.191	0.104
Total Sample		820					

The data analysis obtained 7 (seven) studies with different effect sizes in each study. The highest effect size is the study from Ni Made with

ES = 0.421 and the lowest is the study from Prima S. with ES = -0.156.^{11,12,14}

Table 8. Work Environment Heterogeneity Test Table on Performance

Residual Heterogeneity Estimates			
	Estimates	95% Confidence Intervals	
		Lower	Upper
τ^2	0.036	0.000	0.192
τ	0.189	0.000	0.439
I^2 (%)	71,986	0.000	93,270
H^2	3,570	1,000	14,860

In the Higgins value heterogeneity test (I^2) if < 50% use the Fixed Effect Model and if > 50% use the Random Effect Model. In the JASP software, the value of I^2 = 8.62% means that the results of the heterogeneity test in the table above are > 50% so that to determine the

summary effect using the Random Effect Model analysis model. High heterogeneity is caused by differences in the number of samples in a population in each study so that the impact on the effect size is different.

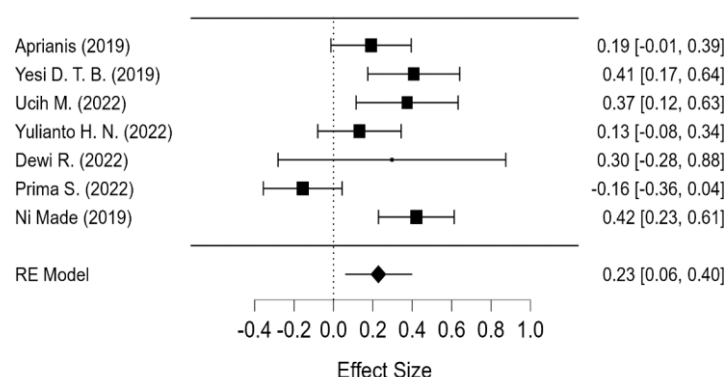


Figure 5. Forest Plot Work Environment on Performance

Table 9. Work Environment Coefficient Value on Performance

Coefficients						
	Estimates	Standard Error	z	p.s	95% Confidence Intervals	
					Lower	Upper
intercept	0.228	0.087	2,637	0.008	0.059	0.398

The overall results of the data analysis from the 7 (seven) studies showed a p-value of 0.008, meaning that there is a significant influence of

the work environment on the performance of Health Service employees in Indonesia. This is in line with the theory of Kasmir (2016) and

Ainsworth, Smith and Millership (2002) that performance is obtained from the work environment. The estimated Effect Size value obtained is 0.228, meaning that the influence of the work environment on the performance of Health Service employees in Indonesia is still weak/small (Cohen's d effect size category with a value of 0.2 = weak/small/low, 0.5 = medium and 0.8 = strong/large/high). The influence of the work environment has a small/weak effect on

performance because the conditions of the work environment created are still in limited conditions so that performance achievement is also not optimal. However, if the work environment is simultaneous with other variables such as Aprianis's research that the work environment and competence together have a strong/large influence (1.018) on the performance of Health Service employees in Indonesia.^{1,6,15}

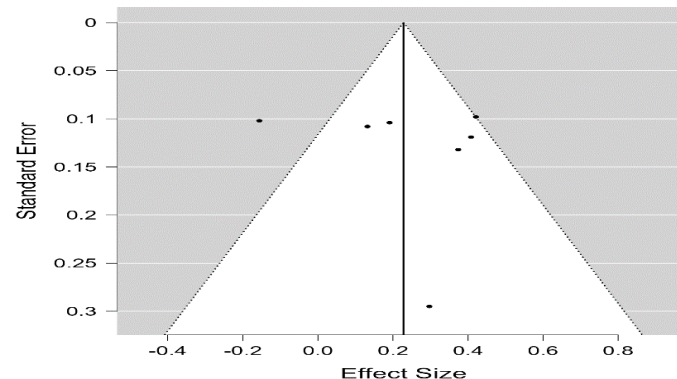


Figure 6. Work Environment Funnel Plot Image on Performance

Image above shows an asymmetry in the plot, meaning that this research has publication bias with 3 (three) plots on the left side and 4 (four) plots on the right side. Publication bias in this meta-analysis cannot be avoided because it can be caused by sample bias, measurement bias or research result bias.

CONCLUSION

Based on the description of the results of the analysis and discussion that has been submitted, the conclusions obtained include leadership has a significant effect on the performance of Health Service employees in Indonesia, Competence has a significant effect on the performance of Health Service employees in Indonesia, Work environment has a significant effect on the performance of

Health Office employees in Indonesia. This study gives the result that the largest effect size is work environment, then competency and lastly leadership. Each of these three variables still has a small effect on performance so it is necessary to encourage leadership, competence and an optimal work environment to improve the performance of Health Office employees in Indonesia.^{16,17}

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