



THE INFLUENCE OF PHYSICAL WORK ENVIRONMENT FACTORS ON THE PERFORMANCE OF EMPLOYEES OF THE MOJOKERTO REGENCY HEALTH OFFICE.

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ABSTRACT	Keywords
<p>Efforts to create a good and comfortable physical work environment must be made by agencies in order to support the achievement of high performance for employees. The purpose of this study was to analyze the influence of physical environmental factors on the performance of employees of the Mojokerto District Health Office.</p> <p>This study was conducted with a cross sectional approach with a sample of 76 employees selected by simple random sampling technique. data were collected with a room thermometer, sound level meter, luxmeter and comfort measurement questionnaire. The data were then analyzed using logistic regression test.</p> <p>The results showed that almost all of the furniture used by employees to work was comfortable (79.5%), most of the rooms had more than average noise levels (59.1%), all rooms had room temperature (15-30o Celsius) (100%), almost all rooms had inappropriate lighting (88.6%).</p> <p>The results of the logistic regression test explain that the comfort of office furniture has no effect on employee performance (p value = 0.545), the noise level has no effect on employee performance (pvalue = 0.739). employee workplace air temperature has no effect on employee performance (pvalue = 0.087). Workplace lighting levels affect employee performance. (p value = 0.026) Together there is an influence of all physical environmental factors on employee performance and there is no most dominant factor in influencing the performance of employees of the Mojokerto District Health Office (pvalue = 0.000). The novelty of this research is that appropriate lighting levels can improve employee performance by 10.05.</p> <p>Sufficient lighting does not interfere with employee concentration so that they can work well and focus and have good performance. Therefore, the Health Office should begin to rehabilitate the facilities owned so as to create a conducive work environment for employees.</p>	<p>Performance , Physical Environment, Lighting, Noise, Employees</p>

INTRODUCTION

Comfort at work is an important factor for employees in the process of doing the tasks given. The comfort of working for employees is mostly created from the physical work environment in the office where they work. The physical work environment is the environment in the office that is used by employees when they complete their tasks and work (Saiful A. *et al.* 2019, Abdillah, D. 2023.).

The professionalism index of ASN in Mojokerto Regency in 2022 is 66.68 (Low) while in 2023 it has increased to 86.23 (High). So that in a performance there can be a decrease or increase in employees which can be influenced by various aspects, one of which is the physical work environment in the office is an important element that must be considered by the office, because this physical work environment is always directly related to the employees who work in the office.

Efforts in creating a good and comfortable physical work environment must be made by the agency. (Premaranthne & Kappagoda, 2020) The dimensions of the physical work environment (ventilation, air temperature, noise, interior, lighting) in an office have a positive impact on the performance of employees. Business owners provide good physical work environment conditions so that employees can work with maximum results. (Son of Tanamas, V., 2022, Putra, R. I. A. 2021). Research objectives: To analyze the relationship between physical environmental factors and the performance of employees of the Mojokerto Regency Health Office.

METHOD

The type of research used is a quantitative analytical research with a cross sectional approach The location chosen for the study is Mojokerto Regency, precisely at

the Mojokerto Regency Health Office, from January to June 2024. the population in this study is employees of the Mojokerto Regency Health Office. using a simple random sampling method of 76 people. The independent variables of the study are Physical Work Environment Factors which include physical aspects on the comfort of office furniture, noise, air temperature, lighting. Dependent variable is employee performance. Ethical Clearance no: 63/EC-SM/2024. This study uses a Logistic Regression test at a significance level of 95% (Pratama, M. A. R. (2020). Sugiyono. 2018.

RESULTS

Table 1. Distribution of Frequency of Respondent Characteristics at the Mojokerto Regency Health Office.

N o	Characterist ic	Frequenc y (f)	Percentag e (%)
1	Gender		
	Man	18	43.9
	Woman	26	56.1
2	Age		
	20 – 29	5	4.8
	30 – 39	18	43,9
	40 – 49	15	36.5
	>50	6	14,8
3	Length of Service		
	< 5 years	21	51,2
	>5 years	23	48.8
4	Education		
	Diploma	10	24.4
	Sarjana	26	56.1
	Magister	8	19.5
5	Length of work		
	< 5 years	27	65.8
	≥5 years	17	34,2
6	Field of Work		
	Secretariat	9	22.0
	P2	9	19.5
	Yankes	9	19.5
	SDK	9	19.5
	Kesmas	8	19.5
	Sum	44	100

a. Special Data Characteristics

Table 2. Frequency Distribution Table Based on Temperature at the Mojokerto Regency Health Office

No.	Temperature	Frequency (f)	Percentage (%)
1.	Room temperature (15-30degrees Celsius)	44	100.0
	Total	44	100.0

Table 2 shows that all rooms in the Mojokerto Regency Health Office have room temperature (15-30o Celsius), which is as many as 44 respondents (100%).

Table 3. Frequency Distribution Table Based on Noise at the Mojokerto Regency Health Office

No.	Noise	Frequency (f)	Percentage (%)
1.	Less than average	18	40.9
2.	More than average	26	59.1
	Total	44	100

Table 3 shows that most of the rooms in the Mojokerto Regency Health Office have a noise level above average, which is 26 respondents (59.1%).

Table 4. Table of Frequency Distribution Based on Light at the Mojokerto Regency Health Office

No.	Light	Frequency (f)	Percentage (%)
1.	Appropriate	5	11.4
2.	Not suitable	39	88.6
	Total	44	100

Table 4 shows that almost all rooms in the Mojokerto Regency Health Office have inappropriate lighting, which is 39 respondents (88.6%)

Table 5. Frequency Distribution Table Based on the Comfort Level of Office Furniture at the Mojokerto Regency Health Office

No.	Comfort	Frequency (f)	Percentage (%)
1.	Uncomfortable	6	13.6
2.	Comfortable	35	79.5
3.	Very comfortable	3	6.8
	Total	44	100

Table 5 shows that almost all the furniture used by employees to work at the Mojokerto Regency Health Office is comfortable, namely 35 respondents (79.5%).

Table 6. Table of Frequency Distribution of Respondents Based on Employee Performance at the Mojokerto Regency Health Office

No.	Performance	Frequency (f)	Percentage (%)
1.	Good	37	84.1
2.	Very good	7	15.9
	Total	44	100

Table 6 shows that almost all respondents have good performance, namely 37 respondents (84.1%).

Table 7. The Effect of Office Furniture Comfort on Employee Performance at the Mojokerto Regency Health Office

Level Comfort	Performance				Total	P Value
	Good		Very good			
	f	%	f	%	f	%
Uncomfortable	6	13.6	0	0	6	13.6
Comfortable	29	65.9	13	29.5	42	95.5
Very comfortable	2	4.5	1	2.3	3	6.9
Total	37	84.1	14	31.5	51	115.6

Based on the results of the statistical test, a probability result (p-value) of 0.545>0.05 was obtained, which means that at alpha 5% there was no significant influence between the comfort of office furniture and the performance of supervisors at the Mojokerto Regency Health Office

Table 8. Effect of Noise Level on Employee Performance at the Mojokerto Regency Health Office

Level Noise	Performance				Total		P Value
	Good		Very good				
	f	%	f	%	f	%	
Less than average	15	34.1	3	6.8	18	40.9	0.739
More than average	22	50.0	4	9.1	26	59.1	
Total	37	84.1	7	15.9	44	100	

Based on the results of the statistical test, a probability result (p-value) of 0.739 > 0.05 was obtained, which means that at alpha 5% there was no significant influence between noise levels and the performance of supervisors at the Mojokerto Regency Health Office.

Table 9. Relationship of Air Temperature to Employee Performance at the Mojokerto Regency Health Office

Temperature Air	Performance				Total		P Value
	Good		Very good				
	f	%	f	%	f	%	
Room temperat ure (15- 30° centigra de)	37	84.1	7	15.9	44	100	0.087
Total	37	84.1	7	15.9	44	100	

Based on the results of the statistical test, a probability result (p-value) of 0.087 > 0.05 was obtained, which means that at alpha 5% there was no significant influence between air temperature and the performance of supervisors at the Mojokerto Regency Health Office

Table 10. The Effect of Lighting Level on Employee Performance at the Mojokerto Regency Health Office

Level Lighting	Performance				Total		P Value
	Good		Very good				
	f	%	f	%	f	%	
Appropriate	4	9.1	1	2.3	5	11.4	0.026
Not suitable	3	75.	6	13.	3	88.	
	3	0		6	9	6	
Total	3	84.	7	15.	4	10	
	7	1		9	4	0	

Based on the results of the statistical test, a probability result (p-value) of 0.026 < 0.05 was obtained, which means that at alpha 5% there is a significant influence between the level of lighting on the performance of supervisors at the Mojokerto Regency Health Office.

Table 11. Partial Test Results Influence comfort, temperature, noise and the level of lighting of the employee's workplace to employee performance

Variable	B	HERSE LF	Sig	XP (B)
-	707,8	24588.2	0.989	0.000
Cash	8	89	1.000	1.005
Lighting	5	179.967	1.000	0.512
temperature	-0.670	8820.6	1.000	0.512
noise	0.306	1080.5	1.000	1.036
comfort	0.035	422.6	1.000	1.036
Performance	17.401	2437.6	0.994	36075016

Based on Table 4.10 above, of the 4 independent (independent) variables that were tested paesially, all variables were insignificant (influential), proving that none of the variables were the strongest or dominant.

DISCUSSION

1. The Effect of the Comfort of Office Furniture Used for Work on the Performance of Staff at the Mojokerto Regency Health Office

Almost all the furniture used by employees to work at the Mojokerto Regency Health Office is comfortable, namely 35 respondents (79.5%). There was no significant influence between the comfort of office furniture and the performance of supervisors at the Mojokerto Regency Health Office.

The results of the study The comfort of office furniture does not directly affect employee performance, but factors related to a comfortable office layout can significantly affect employee productivity and performance. Ergonomics: Ergonomic office furniture can help reduce strain on the neck and shoulders, making employees more comfortable and able to work longer hours without fatigue. This can be seen in research that states that good office space arrangement can improve employee performance and productivity (Rianda, S., & Winarno, A. (2022). Riadi, A.R., & Yanuarti, M. (2024) Riyadi, S. (2022).

2. The Effect of Noise Level on the Performance of Staff at the Mojokerto Regency Health Office

Based on the results of the statistical test, a probability result (p-value) of $0.739 > 0.05$ was obtained, which means that at alpha 5% there was no significant influence between noise levels and the performance of supervisors at the Mojokerto Regency Health Office. Research conducted by Pratama, (2020).

This shows that noise results in communication disruptions in employees such as shouting at work and mistakes in communication, so that it

can affect employee performance. It is also in line with research conducted by Kholik, (2019) which produces a significance value of 0 less than a of 0.05. These results show that the noise in the work area of Power Plant II (Subhan, A., et.al 2023, Sudiro, A. 2019. Mawey, E.R., et.al 2024).

3. The Effect of Air Temperature on the Performance of Attendants at the Mojokerto Regency Health Office

The air temperature where employees work is at room temperature (15-30o Celsius) and has a good performance of 37 respondents (84.1%), Based on the results of statistical tests, a probability result (p-value) of $0.087 > 0.05$ was obtained, which means that at alpha 5% there is no significant influence between air temperature and the performance of supervisors at the Mojokerto Regency Health Office.

The appropriate air temperature can make employees feel comfortable and improve their performance. Temperatures that are too hot or too cold can disrupt the body's temperature balance and reduce employee focus Extreme temperatures can cause a variety of health problems, such as heat rashes, heat syncope, heat cramps, heat exhaustions, and heat stroke. This condition can reduce employee productivity and performance (Nawawi, Hadari. 2006. Nurhadian, A. F. 2019. Pale, S. P., 2023)

4. The Relationship of Lighting Level to the Performance of Attendants at the Mojokerto Regency Health Office

The results of the statistical test obtained a probability result (p-value) of $0.026 < 0.05$, which means that at alpha 5% there is a significant influence between the level of lighting on the

performance of supervisors at the Mojokerto Regency Health Office.

Another study conducted at the State University of Malang (2020) shows that lighting has a positive and significant effect on employee performance. This study uses a cross-sectional method and finds that each increase in lighting (Lux) can increase employee performance by 0.271 units. Good office space lighting will create efficient and effective employee performance, encourage employee motivation and discipline, and have a positive impact on the physical and psychological health of employees (Armansyah and Tanggasari, D. 2019, Hall, F. H. 2020, Armanusah, E. (2017).

5. The effect of comfort, temperature, noise and lighting level of the employee's workplace on employee performance

And the partial test of all insignificant (influential) variables proves that none of the variables are the strongest or dominant. The physical needs of comfort, lighting, temperature, and noise greatly affect employee performance. Good lighting improves visibility and reduces visual impairment, so workers can do their jobs quickly and thoroughly. Lack of lighting can lead to impaired visibility and eyestrain, while excessive lighting can lead to glare, reflections, and excessive shadows. Research shows that good lighting can improve employee performance by 4-35%. Hall, F. H., (2020). Fajri, Y. A., 2022, Habibi, R., 2023

A poor physical work environment has an impact on employee performance in the form of dehydration, fatigue, decreased focus, comfort, increased emotions, and

reduced hearing as well as having an impact on company performance, suboptimal productivity, affecting employee work effectiveness and increasing costs. The physical work environment is a physical condition consisting of elements in the work area such as lighting, temperature, humidity, color, cleanliness, noise, and vibration. This element creates a sense of security and peace so that it plays a role in improving employee performance. Hadi S., 2023, Lingga, G. (2022, Makbul, M. (2021, Mangkunegara, A. P. (2017). The novelty of this research is that appropriate lighting levels can improve employee performance by 10.05.

CONCLUSIONS

The comfort of office furniture has no effect on the performance of supervisors at the Mojokerto Regency Health Office. The noise level has no effect on the performance of supervisors at the Mojokerto Regency Health Office. The air temperature of the employee's workplace has no effect on the performance of employees of the Mojokerto Regency Health Office. The level of workplace lighting affects the performance of employees of the Mojokerto Regency Health Office

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