

## **Investigating factors affecting employees' work productivity**

**Izhar Izhar<sup>1</sup>, Radiman Radiman<sup>2,\*</sup>, Sri Fitri Wahyuni<sup>3</sup>**

North Sumatra Muhammadiyah University, Indonesia<sup>1,2,3</sup>

Corresponding e-mail: [radiman@umsu.ac.id](mailto:radiman@umsu.ac.id)\*

### **ABSTRACT**

**Purpose** — *This study aims to determine the work productivity of employees, which includes work attitudes, skill levels, education, and leadership style, both partially and simultaneously influencing employees' work productivity.*

**Method** — *This study employs a quantitative approach, utilizing multiple linear regression analysis techniques. The population comprised 34 respondents from the Medang Deras District office, with a saturated sample.*

**Result** — *Based on the study's results, it was concluded that work attitude, skill level, and employee education had a partially positive effect on employee productivity, while leadership style had a partial negative effect on productivity. Additionally, the study found that work attitude, skill level, education, and leadership style had a positive simultaneous effect on work productivity.*

**Contribution** — *The academic contribution of this research lies in its innovative approach by introducing additional variables and combining various disciplines such as Management, Psychology, and Education to explore the interplay between work attitude, leadership style, skill levels, and education, ultimately shedding light on their collective impact on employee productivity.*

**Keywords:** work attitude, skill level, education, leadership style, employees' work productivity



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## INTRODUCTION

Organizational success is highly dependent on a high level of employee efficiency, benefiting both the organization and its employees, including their welfare (Adha et al., 2019). The level of productivity also reflects the strong work ethic of employees and exhibits a positive mental attitude. Therefore, both employers and employees must collaborate to increase productivity by implementing efficient policies to achieve the desired productivity improvement. Employee productivity is a key indicator of a company's success, being vital for the expansion, continuity, and profitability of a business entity (Paais & Pattiruhu, 2020).

The evaluation of institutional performance can be observed from the aspect of individual achievement, which contributes to overall organizational efficiency. The hope is that the development of employee performance will enhance their welfare within the institution (Sabuhari et al., 2020). To help increase productivity in an institution, it is necessary for every employee to have a positive attitude. Work attitude is a symbol of effectiveness during work (Jafri, 2018). In this context, if the work attitude is effective, work will certainly proceed smoothly. If not, there might be a problem. However, this problem is not necessarily caused by indiscipline in work attitudes; rather, there may be other issues in employee interactions that lead to the neglect of work attitudes. Work attitude reflects a person's contentment or dissatisfaction with their job (Alefari et al., 2020).

Work attitude encompasses a person's verbal tendencies, encompassing positive or negative emotions that reflect their perceptions of individuals, objects, or events in their surroundings (Yücel, 2021). Embracing a consistent routine can positively influence performance, yielding valuable gains, and work attitude serves as an effective indicator of the efficiency of work (Zhenjing et al., 2022). Interpersonal issues among colleagues or leaders can lead to a neglected work attitude, which in turn impacts job satisfaction and emotional inclinations (Pudyaningsih et al., 2020). Employee happiness holds significant importance for an organization, as contented employees exhibit dedication, honesty, high morals, and actively contribute to the company's progress (Tahiri et al., 2022).

In addition to work attitudes, skill levels play a vital role in productivity and refer to an individual's abilities and practical knowledge, encompassing both creative and practical aspects, obtained through learning and continuous practice (Azizzadeh et al., 2022). Work-related skills are essential for employees to effectively carry out assigned tasks in accordance with applicable regulations (Pasaribu, 2014). However, efforts to enhance productivity should not solely rely

on skill training; companies should also provide broader access to education, allowing employees to develop their skills and knowledge, thereby improving performance and contributing positively to the work environment (Paais & Pattiruhu, 2020).

Outside of Education, leadership style also significantly influences employee productivity (Paais & Pattiruhu, 2020). Leadership is the process of influencing individuals to achieve desired results through effective communication (Jufrizen et al., 2022). This influence is exerted through guidance, instruction, and steps aimed at bringing about positive changes, thereby holding crucial value in motivating and coordinating organizational entities toward desired achievements (Hai et al., 2021). Additionally, leadership involves possessing skills to gain the trust and support of subordinates in pursuit of organizational goals (Siraj et al., 2022).

Leadership can be defined as the stage involving the influence of others to understand and agree with task requirements and how to carry them out. Moreover, leadership encompasses facilitating individual and organizational efforts to achieve goals (Khan et al., 2020).

Previous studies on employees' work productivity have explored various factors such as leadership style and motivation. Liza et al. (2022) conducted a quantitative study with a population of 64 employees using saturation sampling and distributed questionnaires. They found that leadership style did not have a significant impact on employee productivity, but motivation positively and significantly influenced productivity. Rina (2020) examined productivity in the banking sector and identified that different leadership styles had varying effects on employee productivity. In particular, the participatory leadership style had a significant positive impact on productivity. Additionally, Alam & Hasan (2020) focused on the garment industry in Bangladesh and compared the country's productivity with competitors like China, India, Sri Lanka, and Pakistan. Their research highlighted the importance of wages, benefits, facilities, welfare, and motivation in influencing employee productivity in the garment industry. The study concluded that these factors collectively and partially influenced employee productivity.

Referring to previous research on productivity, the main focus of the study is on motivation, leadership style, and the impact of wages, benefits, and welfare on productivity. This research aims to provide new insights by introducing additional variables to examine their effects on employee work productivity. The study combines work attitude with leadership style and skill level with education to understand the interactions between these variables and their influence on employee productivity. Moreover, this research draws from multiple disciplines,

including Management, Psychology, and Education, to broaden the perspective on the factors influencing employee work productivity.

This study aims to investigate the impact of employees' work attitude, skill levels, education, and leadership style, both partially and simultaneously, on employee work productivity. The author intends to provide an overview of the industry or the world of work, highlighting that work productivity can be enhanced through various organizational approaches. Individual development within companies is considered an asset investment for the company's future survival, as an improvement in the quality of human resources within the company positively influences production results, ultimately enhancing the company's reputation.

## **METHOD**

This research adopts a quantitative approach as it utilizes numerical data throughout its presentation. Quantitative research emphasizes the use of numerical data in data collection, interpretation, and result presentation ([Arikunto, 2019](#)). The population under study comprises 34 workers from the Medang Deras district office, with a saturated sample. The data analysis method employed in this study is multiple linear regression analysis.

## **Hypothesis development**

### ***Work attitude on employees' work productivity***

Attitude involves the positive or negative evaluation of objects, individuals, or events and is influenced by the habits of an individual ([Robbins, 2013](#)). The condition of employees has a significant impact on work productivity ([Sulistiyani, 2018](#)). Productivity at work can be enhanced through individual abilities and attitudes ([Sedarmayanti, 2011](#)).

Research conducted by [Nasron and Astuti \(2012\)](#) and [Jayantini et al. \(2015\)](#) indicates that work attitude has a positive and significant impact on performance.

H1: Work attitude affects positively employees' work productivity

### ***Skill level on employees' work productivity***

Skills are influenced by formal and non-formal education, management training, and technical skills in the industry. Technical skills and leadership play important roles in determining the level of effectiveness.

These statements are supported by the research of [Sedarmayanti \(2011\)](#), [Syahdan \(2017\)](#), and [Setiawan \(2015\)](#). The results demonstrate that capabilities have a positive and significant impact on work achievement.

H2: Skill level affects positively employees' work productivity

### ***Education on employees' work productivity***

Education is a transformative process that involves changes in patterns of thought and actions for individuals or groups through teaching, training, and learning. Its main focus is to enrich the rational thinking and understanding of the environment. Education enhances employees' thinking abilities and strengthens their problem-solving skills, leading to increased work efficiency.

Research conducted by [Riani \(2016\)](#) and [Hermawanto \(2014\)](#) demonstrates that education has a positive influence on work productivity.

H3: Education affects positively employees' work productivity

### ***Leadership style on employees' work productivity***

Controlling style is a leadership form where the leader directs followers to reach goals and provides guidance and support to align the group or organization's goals with its overall purpose ([Coulter, 2012](#)).

A study by Jatmiko and Swasto (2018) demonstrates that this management approach has a significant positive influence on employee performance. [Rina \(2020\)](#) also found that the controlling leadership model has a significant positive impact on work performance.

H4: Leadership style affects positively employees' work productivity

### ***Work attitude, skill level, education, and leadership style on employees' work productivity***

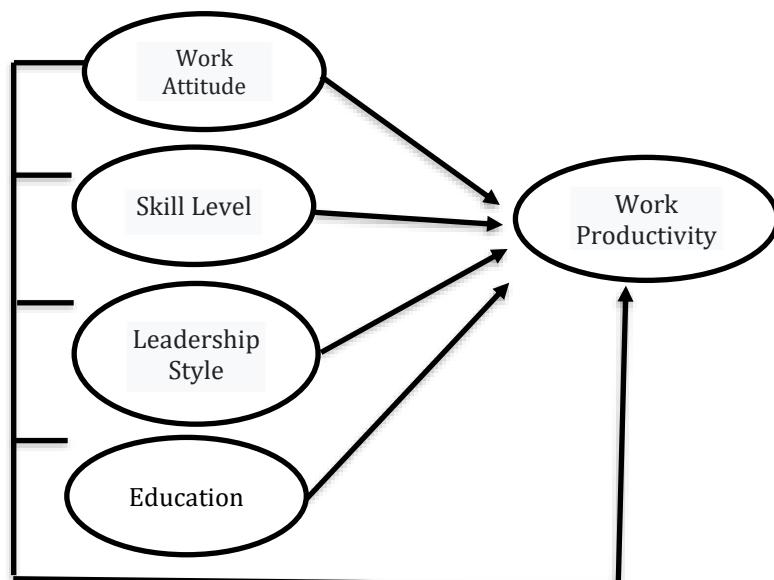
Efficiency is defined as the ratio of output (goods/services) to input (labor, capital, etc.) used, representing how effectively a process produces output based on the input provided. Attitude at work positively impacts efficiency, while

expertise rate enhances employee efficiency. Organizations that employ skilled workers tend to experience growth and development. Education plays a crucial role in determining employee productivity; lower levels of education can affect the tasks performed by employees, while leadership style within the organization also influences productivity.

Studies by [Zulfah \(2015\)](#) have shown that leadership style, work discipline, and the work environment have a positive and significant impact on employee productivity at PT PLN Distribution Jakarta Raya.

H5: Work attitude, skill level, education, and leadership style simultaneously positively affect employees' work productivity

**Figure 1.** Research Framework



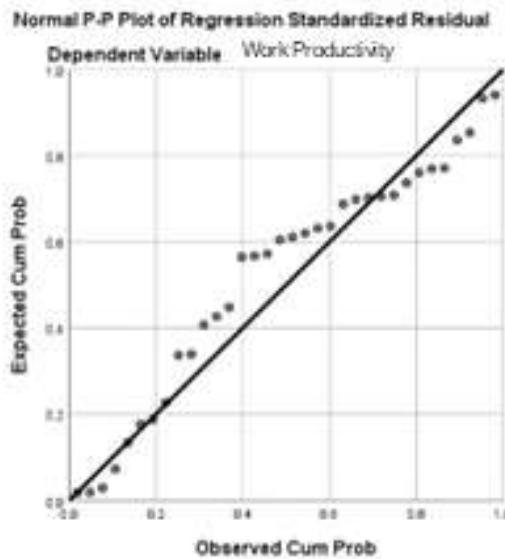
Source: authors' compilation (2023)

## RESULT AND DISCUSSION

### Normality test

The normality test examines the normal distribution of regression data, based on normal probability plots.

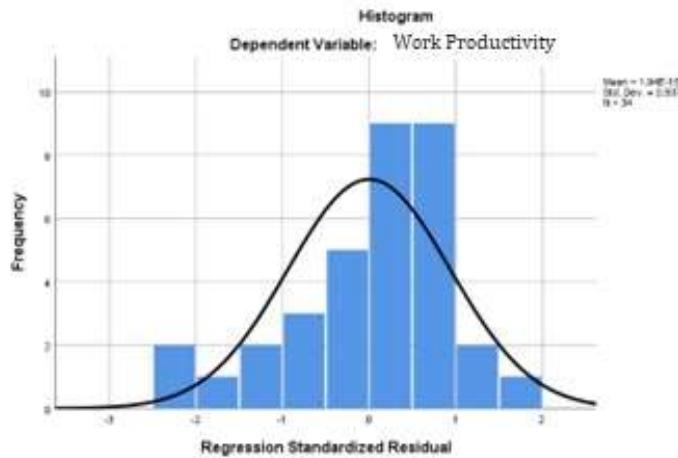
**Figure 1. PP test plot normality test**



Source: processed data (2023)

Based on Figure 1, the data in this study appears to be normally distributed, as all points are contained inside and along the line.

**Figure 2. Normality test histogram**



Source: processed data (2023)

Based on Figure 2, the research data appears to have a normal distribution because the graph displays an emptiness in the middle.

**Table 1.** One sample Kolmogorov-Smirnov test

		<b>Y new</b>
N		34
Normal Parameters <sup>a,b</sup>	Means	31.4412
	std. Deviation	1.63911
Most Extreme Differences	absolute	.126
	Positive	.097
	Negative	-.126
Test Statistics		.126
Symp. Sig. (2-tailed)		.188 <sup>c</sup>

Source: processed data (2023)

In Table 1, the two-sided significance value (Symp. sig.) on the Kolmogorov-Smirnov test is 0.188. Based on this result, it can be concluded that the data is normally distributed because the significance value ( $P = 0.188$ ) is greater than 0.05, indicating no significant deviation from normality.

### Multicollinearity test

The collinearity test evaluates the correlation between independent variables in the regression model, utilizing tolerance and VIF (Variance Inflation Factor) values. However, the results of the collinearity test, including VIF values and tolerances, do not offer any additional information in this context.

**Table 2.** Multicollinearity test

<b>Model</b>		<b>Unstandardized Coefficients</b>		<b>Collinearity Statistics</b>	
		<b>B</b>	<b>std. Error</b>	<b>tolerance</b>	<b>VIF</b>
1	(Constant)	13,655	.869		
	work attitude	.153	.015	.836	1.196
	Skill levels	.278	.016	.776	1,289
	Education	.191	.018	.920	1,086
	Leadership style	-.047	.017	.860	1.163

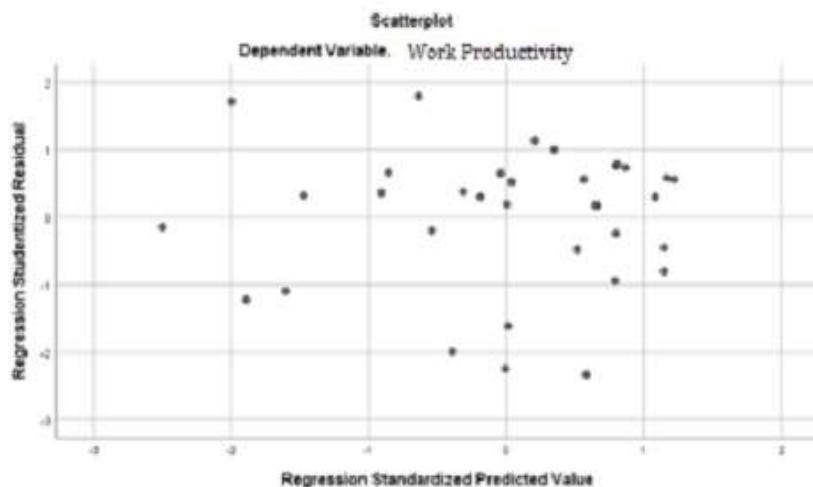
Source: processed data (2023)

In Table 2, the tolerance values range from 0.836 to 0.920, and the VIF values range from 1.086 to 1.289. These values indicate that there is no collinearity issue among the independent variables in the regression model, as all VIF values are less than 10 and all tolerance values are greater than 0.10. This confirms that the variables are not highly correlated, ensuring the validity and reliability of the regression analysis.

### **Heteroscedasticity test**

The heteroscedasticity test assesses the variability of residuals in a regression analysis. In a good model, homoscedasticity is observed, where the residual variance remains constant across the predictor values. A scatterplot can help identify heteroscedasticity; if all points on the plot are evenly distributed across all fields, it indicates that the data does not exhibit symptoms of heteroscedasticity.

**Figure 3.** Scatterplot of heteroscedasticity test



Source: processed data (2023)

Based on Figure 3, the scatterplot shows an even distribution of points with no signs of heteroscedasticity. The variance of the variable remains constant, indicating a stable relationship between the variables and supporting the assumption of homoscedasticity.

### **Multiple linear regression analysis**

Multiple linear regression measures the effect of independent variables on the dependent variable and predicts the value of the dependent variable.

**Table 3.** Multiple linear regression

<b>Model</b>	<b>Unstandardized Coefficients</b>		<b>Standardized Coefficients</b>
	<b>B</b>	std. Error	Betas
1 (Constant)	13,655	.869	
Work attitude	.153	.015	.364
Skill levels	.278	.016	.650
Education	.191	.018	.368
Leadership style	-.047	.017	-.099

Source: processed data (2023)

The equation presented here represents a multiple linear regression model that examines the relationship between independent variables and their impact on the dependent variable, which is labor productivity. The equation is as follows:

$$\text{Labor Productivity} = 13.655 + (0.153 * \text{Work Attitude}) + (0.278 * \text{Skill Level}) + (0.191 * \text{Education}) - (0.047 * \text{Leadership Style})$$

In this equation, the constant value of 13.655 represents the fixed component that is not affected by any of the independent variables. The four independent variables considered are work attitude (x1), skill level (x2), education (x3), and leadership style (x4).

An increase in work attitude by 0.153 will result in a corresponding increase in labor productivity by 0.153 units. Similarly, a rise in skill level by 0.278 will lead to a rise in labor productivity by 0.278 units. Education also positively impacts labor productivity, with an increase in education by 0.191 resulting in an increase in labor productivity by 0.191 units.

However, the leadership style has a negative effect on work productivity. A decrease in leadership style by -0.047 will result in a reduction in work efficiency by -0.047 units.

### **Simultaneous test (F-test)**

The F-test examines the joint effect of the independent variables on the dependent variable; if the significance level is less than 0.05, H0 is rejected, indicating a significant simultaneous effect.

This section explains the results of the study. Data should be presented in Tables or Figures when feasible. There should be no duplication of data in Tables and Figures. The discussion should be consistent and should interpret the results clearly and concisely, and their significance, supported by the suitable literature. This section also shows relevance between the result and the field of investigation and/ or hypotheses.

**Table 4.** Simultaneous test

ANOVA <sup>a</sup>					
<b>Model</b>	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Regression	85,936	4	21,484	228,682	.000 <sup>b</sup>
residual	2,724	29	.094		
Total	88661	33			

a. Dependent Variable: Ynew

b. Predictors: (Constant), Leadership Style, Education, Work Attitude, Skill Level

Source: processed data (2023)

The F-count value is 228.682, and the critical F-table value is 2.329, with a significance level of 0.000. Based on these results, it can be concluded that work attitude, skills, education, and leadership all have a positive effect on work productivity. Additionally, a t-test was also conducted.

#### **Partial test (t-test)**

The t-test examines the partial effect of the independent variable on the dependent variable at a significance level of 5%.

**Table 5.** Partial test

<b>Model</b>		<b>Unstandardized Coefficients</b>		<b>Q</b>	<b>Sig.</b>
		<b>B</b>	<b>std. Error</b>		
1	(Constant)	13,655	.869	15,713	.000
	work attitude	.153	.015	10.238	.000
	Skill levels	.278	.016	17,577	.000
	Education	.191	.018	10,841	.000
	Leadership style	-.047	.017	-2,826	.008

Source: processed data (2023)

The critical t-table value for a two-tailed test with 31 degrees of freedom (34-3 = 31) is 0.775.

1. For the variable x1 (work attitude), the calculated t-value is 10.238, which is greater than the critical t-table value of 0.775, and the significance level is 0.000 (less than 0.05). Therefore, it can be concluded that x1 (work attitude) has a positive and significant effect on work productivity. A higher level of work attitude is associated with higher work productivity.
2. For the variable x2 (skill level), the calculated t-value is 17.577, which is greater than the critical t-table value of 0.775, and the significance level is 0.000 (less than 0.05). Hence, x2 (skill level) has a positive and significant effect on work productivity. A higher skill level is related to higher work productivity.
3. The t-value for the variable x3 (education) is 10.841, which is greater than the critical t-table value of 0.775, and the significance level is 0.000 (less than 0.05). This leads to the conclusion that x3 (education) has a positive and significant effect on work productivity. A higher education level is linked to higher work productivity.
4. For the variable x4 (leadership style), the calculated t-value is -2.826, which is less than the critical t-table value of 0.775, and the significance level is 0.008 (less than 0.05). Consequently, x4 (leadership style) has a negative and significant effect on work productivity. A higher level of leadership style is associated with lower work productivity.

## **Discussion**

### ***Influence of work attitude on employees' work productivity***

Based on the findings, a positive work attitude has a significant impact on work productivity. A good work attitude serves as a motivating factor, encouraging employees to achieve better work productivity. It boosts work morale and leads to increased efforts in fulfilling duties and responsibilities. Moreover, a positive work attitude enhances employee focus on their tasks and fosters creativity and innovation in improving work efficiency and effectiveness ([Khan et al., 2020](#)).

These findings align with the research of [Sedarmayanti \(2019\)](#), which also emphasizes the positive influence of work attitude on employee productivity. Similarly, [Jayantini's research \(2021\)](#) supports the conclusion that work attitude significantly affects employee productivity.

### ***Influence of skill level on employees' work productivity***

Based on the study conducted, it was found that skills significantly influence the productivity of employees at the Medang sub-district office. A higher skill level is associated with increased productivity. Employees with good skills are more efficient and proficient in performing their duties and tasks, enabling them to handle job processes from the initial stages to the final completion more swiftly ([Morgan et al., 2021](#)). Good skills lead to better job outcomes, and employees with higher skill levels are more likely to produce high-quality work ([Shuriye & Wambua, 2020](#)).

These findings are consistent with previous research by [Setiawan \(2018\)](#), which also emphasizes the positive and significant impact of skills on performance.

### ***Influence of education on employees' work productivity***

This study found that education has a positive impact on work productivity. Employees with a good education level possess valuable knowledge and understanding, which contributes to their overall performance ([Ekatama et al., 2022](#)). Furthermore, individuals with higher levels of education demonstrate strong analytical and critical thinking skills, enabling them to effectively complete tasks and assignments ([Harcang et al., 2021](#)). This level of education also fosters innovation and creativity, encouraging the generation of creative ideas that support the development of institutions or companies, thereby enhancing employee productivity ([Børning & Grøgaard, 2021](#)).

These findings align with previous research by [Ismeirita \(2020\)](#), which emphasizes the importance of education in supporting employee productivity. Similarly, [Purba \(2021\)](#) states that education has a positive influence on employee productivity. Collectively, this study provides valuable insights into the significant role of education in boosting work productivity and underscores its significance in cultivating a skilled and creative workforce.

### ***Influence of leadership style on employees' work productivity***

Based on the study's results, it has been found that leadership style has a negative influence on work productivity in Medan. Weak leadership can lead to employees lacking proper direction in performing their assigned tasks. This lack of direction causes a lack of coordination between different parts of the organization, resulting in decreased employee productivity ([Khair et al., 2022](#)). A leader must be capable of being a motivator for their subordinates, which can boost employee morale and productivity. However, if a leader exhibits poor

communication skills, employees may not fully understand the vision and mission of the institution or company, leading to a decline in employee productivity as they may work independently without proper guidance ([Kusnadi et al., 2020](#)).

These findings contrast with the research conducted by [Jatmiko \(2019\)](#), which states that leadership has a positive influence on employee work productivity. Similarly, research by [Private \(2020\)](#) suggests that work productivity is affected by the level of education. The study presents different perspectives, indicating the complex interplay of leadership, communication, and education in shaping employee productivity.

### ***Simultaneous effect of work attitude, skill level, education, and leadership style on employees' work productivity***

Based on the study's findings, work attitude, skills, education, and leadership have a significant effect on employee productivity. These factors are essential in determining work productivity. Employee productivity is influenced by various factors, such as the presence of employees with good skills, which is supported by a solid educational background. Additionally, work productivity is influenced by the nature and style of leadership ([Nahariah, 2018](#)). Leaders with effective communication skills can direct employees to understand the vision and mission of the company or institution, leading to enhanced teamwork and efficiency ([Salfadri et al., 2019](#)).

These findings are consistent with previous research by [Zulfah \(2019\)](#), which highlights the simultaneous influence of work attitude and leadership on employee productivity. Similarly, [Komaruddin's research \(2021\)](#) supports the notion that skill levels and education also have a simultaneous effect on employee productivity. The study emphasizes the significance of considering multiple factors, such as attitude, skills, education, and leadership, to enhance employee productivity in various contexts.

## **CONCLUSION**

The research results provide a description of employees' work productivity at the District Office Medang Deras. The study findings indicate that work attitude positively impacts employees' work productivity. Additionally, skill level and education positively influence employee productivity. However, a poor leadership style has a negative effect on employee efficiency. Moreover, work attitude, skill levels, education, and leadership style collectively contribute

positively to job productivity. The study underscores the significance of these factors in shaping employees' performance and work productivity.

This research has practical implications, including the need to enhance employees' skills and education. Organizations should encourage employees to improve their skills and education, and provide further training and educational opportunities. Moreover, developing a supportive policy towards employee attitudes, such as recognizing and appreciating their performance, offering career development for outstanding employees, and fostering an inclusive work culture, is essential.

For further research, this study can be extended and improved by exploring various new factors that influence work productivity. By incorporating additional variables, the research findings can be more comprehensive and serve as a reference for future researchers, contributing to a better understanding of work productivity and its determinants.

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