

The Relationship Between Time Management and Workload on Job Stress of High School Teachers in East Jakarta with Social Support as an Intervening Variable

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Article Info	ABSTRACT
Keywords: Time Management, Workload, Social Support, Job Stress	This quantitative study aims to analyze the effect of Time Management and Workload on Job Stress among teachers, with Social Support as an intervening variable. Data were collected through a questionnaire survey distributed to 100 high school teachers in East Jakarta and analyzed using the Partial Least Squares-Structural Equation Modeling (PLS-SEM) method. The outer model test results indicate that all indicators are valid and reliable, as shown by a loading factor above 0.70, an Average Variance Extracted (AVE) value above 0.50, and Composite Reliability exceeding 0.90. The R-Square values for the Social Support and Job Stress constructs are 0.897 and 0.886, respectively, indicating that both constructs can be comprehensively explained by the exogenous variables in the model. The key findings reveal that Workload and Time Management have a positive and significant effect on Job Stress, both directly and through Social Support. Interestingly, Social Support also exhibits a positive relationship with Job Stress, which may indicate increased expectations or role demands on teachers. This suggests that, rather than alleviating stress, a high level of social support may inadvertently increase psychological burdens. This study recommends further examination of the quality and type of social support provided to ensure that time management strategies and workload management effectively reduce teachers' Job Stress.
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INTRODUCTION

The teaching profession is often faced with diverse task demands, including lesson preparation, development of teaching materials, assessment, and administrative activities. These demands require good time management skills to ensure that all responsibilities are optimally fulfilled (Slameto, n.d.). However, in reality, many teachers struggle to manage their time, resulting in a multiplied workload (Ismail & Daud, 2016). This situation is exacerbated by the addition of administrative tasks, such as preparing student progress reports, inputting grades into online systems, and participating in non-academic school activities. According to

the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek), some teachers spend more than 40 hours per week completing school-related tasks, including responsibilities outside of teaching hours (Kemendikbudristek, 2021).

This phenomenon leads to the emergence of work stress experienced by teachers. Work stress is defined as a physical and emotional reaction that occurs when job demands are not balanced with an individual's abilities and resources (Lazarus & Folkman, 1984). In the context of teaching, work stress can manifest as emotional exhaustion, decreased teaching motivation, and even physical health issues (Sutarto, Sari, & Fathony, 2020). If not managed properly, work stress can reduce the quality of teaching delivered by teachers and ultimately impact students' academic achievement (Johnstone et al., 2020).

One crucial factor that can minimize teachers' work stress is social support. Social support refers to the presence of individuals or groups willing to help, understand, and provide emotional or instrumental assistance to someone (Cohen & Wills, 1985). In the teaching profession, social support can come from colleagues, superiors, family members, or professional communities (Kahn et al., 2006). Research shows that teachers who feel supported by their peers and school administrators tend to experience lower levels of work stress (Chen, 2019). Therefore, social support is often considered an important variable that mediates or intervenes in the negative effects of ineffective time management and high workload.

Several studies have examined the influence of time management and workload on work stress among educators. However, few have highlighted how social support can act as an intervening variable. This study aims to fill that gap by analyzing how time management and workload simultaneously interact in influencing teachers' work stress and the extent to which social support mediates this relationship. The findings of this study are expected to provide not only theoretical contributions to the development of educational management studies but also practical solutions for teachers and stakeholders in designing strategies to manage work stress.

Time management is the effort to plan, organize, direct, and control the use of time efficiently so that organizational or individual goals can be effectively achieved (Sedarmayanti, 2016). According to Hasibuan (2017), time management is a systematic process of managing and organizing time, which includes setting task priorities, scheduling activities, and evaluating time utilization to enhance work productivity. Meanwhile, Handoko (2017) defines time management as encompassing proper planning and scheduling, setting clear targets and objectives, and controlling task execution to minimize time wastage and improve work efficiency.

Workload refers to the volume or amount of work that must be completed by an individual or group within a certain period, related to the responsibilities and demands attached to a job position (Mangkunegara, 2011). According to Hasibuan (2017), workload refers to the number of tasks an employee must complete, whether routine, incidental, or developmental, requiring effective time and energy management to achieve predetermined targets. Companies can determine the extent to which employees can be assigned a maximum workload and the impact on company performance by assigning an effective

workload. By providing an effective workload, companies can assess how much work employees can handle at maximum capacity (Simanjuntak & Frimayasa, 2023).

Work stress is a condition of tension that affects an individual's emotions, thought processes, and physical state, arising due to the mismatch between job demands and an individual's abilities, resources, or needs (Sedarmayanti, 2016). Work stress is a state of tension or pressure experienced by an individual (employee, teacher, or other worker) due to an imbalance between job demands and the individual's capabilities, resources, and needs. This pressure can affect an individual's physical, psychological, and behavioral aspects, directly impacting motivation, performance, and productivity in the work environment. Effective work stress management typically involves social support, time management, and proper workload management.

Social support refers to any form of assistance (both emotional and instrumental) provided by others or groups to an individual, helping them feel valued, cared for, and having a place to share when facing various challenges or problems.

METHODS

This study employs a quantitative approach with an explanatory design, aiming to examine the relationship between independent variables (Time Management and Workload) and the dependent variable (Teachers' Job Stress) mediated by Social Support. The target population consists of teachers in a specific region or institution, but the exact number is unknown. Therefore, the researcher applies the sample determination rule in the Structural Equation Modeling (SEM) model using Partial Least Squares (PLS). The researcher follows the rule of thumb by Hair et al. in (Siboro et al., 2025), which emphasizes a minimum of 10 times the largest number of indicators in a construct, resulting in an estimated minimum sample size of 100 respondents.

The sampling technique can be conducted using purposive sampling or convenience sampling, depending on the research context and the researcher's access to respondents (Agtovia Frimayasa, Yanthi Herawati, Ibnu Haris Nasution, 2024). Data collection is carried out through the distribution of questionnaires containing statements related to Time Management, Workload, Social Support, and Job Stress. Each construct has several indicators measured using a specific scale (e.g., Likert scale).

Data analysis is conducted using the Partial Least Square (PLS) method with SmartPLS version 3 software. The research testing utilizes path analysis, which is an extension of multiple linear regression analysis. The analysis is performed in two stages. The first stage analyzes the strength of the relationship between independent variables and the mediating variable (intervening variable); the second stage examines the strength of the relationship between independent variables and the dependent variable (Nuryati et al., 2024). The results will indicate whether the mediation is full (full mediation) or partial (partial mediation). Through this method, the study is expected to provide a comprehensive and empirically relevant depiction of the role of Social Support in the relationship between Time Management, Workload, and Teachers' Job Stress.

RESULTS AND DISCUSSION

Convergent Validity

Convergent Validity refers to the extent to which a set of indicators measuring a specific construct are highly correlated and truly represent the concept being measured. In Structural Equation Modeling (SEM) analysis, particularly in the Partial Least Squares (PLS) approach, convergent validity is evaluated using several criteria. Each indicator (question in the questionnaire) is expected to have a high loading value (generally ≥ 0.70) on the construct it measures. The higher the loading value, the stronger the relationship between the indicator and its construct.

Table 1. Outer Loadings

	Workload	Social Support	Time Management	Work Stress
BK2	0,777			
BK3	0,778			
BK4	0,752			
BK5	0,813			
BK6	0,807			
BK7	0,814			
BK8	0,768			
BK9	0,798			
DS1		0,788		
DS2		0,780		
DS3		0,826		
DS4		0,763		
DS5		0,835		
DS6		0,848		
DS7		0,775		
DS8		0,846		
MW1			0,804	
MW2			0,753	
MW3			0,774	
MW4			0,754	
MW5			0,755	
MW6			0,811	
SK1				0,795
SK2				0,818
SK3				0,770
SK4				0,750
SK5				0,756
SK6				0,782
SK7				0,790
SK8				0,811
SK9				0,830

Based on the Outer Loadings table above, each indicator (BK2–BK9, DS1–DS8, MW1–MW6, and SK1–SK9) has a relatively high loading value on its respective construct. In general, the loading values range from approximately 0.75 to 0.85, with some indicators slightly above 0.75 and the highest reaching 0.848. This indicates that each indicator has a strong correlation with the construct it measures.

All indicators have loading values above 0.70, which is generally considered the minimum criterion for convergent validity. Therefore, it can be concluded that all indicators are sufficiently reliable in measuring their respective constructs, ensuring that convergent validity for each variable (Workload, Social Support, Time Management, and Work Stress) has been met. This means that the research instrument has good measurement quality and can proceed to the next stage of analysis (inner model evaluation).

Average Variance Extracted

According to Ghazali, Imam & Latan (n.d.), Average Variance Extracted (AVE) is a measure used to assess the extent to which the average variance of indicators is successfully extracted by a construct, thereby providing an overview of the level of convergent validity. If the AVE value for each construct is above 0.50, then the construct is considered capable of explaining at least 50% of the variance of its indicators. Thus, the construct can be regarded as having an adequate measurement quality.

Table 2. Average Variance Extracted

Average Variance Extracted (AVE)	
Workload	0,622
Social Support	0,653
Time Management	0,601
Work Stress	0,623

Based on the Average Variance Extracted (AVE) table, all constructs (Workload, Social Support, Time Management, and Work Stress) have AVE values above 0.60. This indicates that each construct is able to explain more than 50% of the variance of its indicators. In other words, each variable has met the recommended convergent validity criteria (≥ 0.50). The highest AVE value is found in Social Support (0.653), followed by Work Stress (0.623), Workload (0.622), and Time Management (0.601). Overall, these results confirm that the measurement indicators for each construct are sufficiently strong in reflecting the measured concept, making the research instrument eligible to proceed to the next stage of analysis.

Reliability

Composite Reliability (CR) and Cronbach's Alpha are two measures used to assess internal consistency or reliability of the indicators within a construct. Both aim to ensure that a set of indicators is truly correlated and measures the same construct.

Table 3. Reliability

	Cronbach's Alpha	Composite Reliability
Workload	0,913	0,929
Social Support	0,924	0,938
Time Management	0,867	0,900

	Cronbach's Alpha	Composite Reliability
Work Stress	0,924	0,937

Based on the table above, all constructs (Workload, Social Support, Time Management, and Work Stress) have Cronbach's Alpha values ranging from 0.867 to 0.924 and Composite Reliability (CR) values between 0.900 and 0.938. These values exceed the commonly recommended threshold (≥ 0.70). This reliability result confirms that all variables—Workload, Social Support, Time Management, and Work Stress—exhibit strong measurement quality. In other words, the research instrument can be considered reliable in reflecting these constructs, allowing the researcher to proceed to the structural analysis stage (inner model).

R-square (R^2)

R-square (R^2) is a measure that describes the proportion of variance in the dependent/endogenous variable that can be explained by the independent/exogenous variables in a model. In the context of Partial Least Squares (PLS) or Structural Equation Modeling (SEM), the R^2 value is calculated for each endogenous variable to assess how well the model explains the studied phenomenon.

Table 4. *R-square*

	R Square	R Square Adjusted
Social Support	0,897	0,895
Work Stress	0,886	0,882

Based on the table above, Social Support has an R Square value of 0.897 and an R Square Adjusted value of 0.895, meaning that approximately 89.7% of the variance in Social Support can be explained by the independent variables in the model (such as Time Management and Workload), while the remaining 10.3% is explained by factors outside the model. The very small difference between R Square and R Square Adjusted (0.897 vs. 0.895) indicates that adding more variables does not cause significant bias, making the model relatively stable.

A similar pattern is observed for the Work Stress variable, with an R Square value of 0.886 and an R Square Adjusted value of 0.882. This means that 88.6% of the variance in Work Stress can be explained by the combination of exogenous variables (such as Time Management, Workload, and Social Support), while the remaining 11.4% is influenced by factors outside the model. The small difference between R Square and R Square Adjusted (0.004) also indicates that the model has high explanatory consistency.

F Square (f^2)

F Square (f^2) is a measure used in PLS-SEM (Partial Least Squares-Structural Equation Modeling) to assess the relative effect or influence of an independent (exogenous) variable on a dependent (endogenous) variable after accounting for other independent variables. Unlike R Square, which describes how much the overall exogenous variables explain the variability of the endogenous variable, f^2 focuses on the contribution of each exogenous variable in explaining the endogenous variable when added or removed from the model.

Table 5. F Square (f^2)

	Workload	Social Support	Time Management	Work Stress
Workload		0,843		0,244
Social Support				0,053
Time Management		0,130		0,050
Work Stress				

From the table above, the following findings are obtained:

- Workload is proven to be the most dominant predictor in the model, particularly in influencing Social Support ($f^2 = 0.843$) and Work Stress ($f^2 = 0.244$).
- Time Management has an effect but falls within the small to moderate range in influencing Social Support and Work Stress.
- Social Support also has a relatively small effect on Work Stress ($f^2 = 0.053$).

These f^2 results confirm that Workload is the most substantial influencing variable, while Time Management and Social Support also contribute, but not as significantly as Workload in explaining the related endogenous variables.

Predictive Relevance (Q-Square)

Q-Square (Q^2) provides an essential evaluation dimension for a model alongside R^2 . While R^2 assesses how well exogenous variables "explain" the endogenous variables, Q^2 evaluates how well the model can predict actual values that are intentionally "hidden."

If $Q^2 > 0$, the model is considered to have good predictive power, reinforcing confidence that the model is valid and relevant in projecting the studied phenomenon. According to Ghazali, Imam & Latan (n.d.), Q-Square Predictive Relevance is a test used to evaluate PLS models, using the formula:

$$Q^2 = 1 - (1 - R_1^2) \times (1 - R_2^2) \times (1 - R_3^2) \times (1 - R_4^2)$$

The testing criteria state that if $Q^2 > 0$, the model has predictive relevance. The values $Q^2 = 0.02$, 0.15 , and 0.35 indicate weak, moderate, and strong models, respectively (Ghozali, Imam & Latan, n.d.).

$$Q^2 = 1 - (1 - R_1^2) \times (1 - R_2^2) \times (1 - R_3^2) \times (1 - R_4^2)$$

The result $Q^2 = 0.988258 \approx 0.988$, meaning that the overall Q^2 value for the model is ≈ 0.988 , which can be interpreted as the model having a very high predictive capability. In other words, the exogenous variables in the study are considered highly capable of predicting the endogenous variables (Social Support and Work Stress), as Q^2 is far above 0.

Hypothesis Testing Criteria

To determine whether a hypothesis can be accepted or rejected, it is important to consider the t-statistic value and p-value obtained. If the t-statistic exceeds the critical value set at a certain confidence level, and the p-value is below the significance threshold (typically 0.05), then the hypothesis is accepted. Conversely, if the t-statistic is below the critical value or the p-value is higher than the determined significance level, the hypothesis must be rejected.

The minimum t-statistic threshold commonly used for assessing significance at a 5% significance level ($p < 0.05$, two-tailed test) is ≥ 1.96 . In other words, if the t-statistic value of

a path is greater than or equal to 1.96, then the effect is considered significant at a 95% confidence level.

Table 6. Direct Influence Test Results

Path	Original Sample (O)	Sample Mean (M)	Standard Deviation	T Statistics (O/STD)	P Values
Workload -> Social Support	0.693	0.679	0.109	6.351	0,000
Workload -> Work Stress	0.700	0.693	0.121	5.766	0,000
Social Support -> Work Stress	0.242	0.23	0.12	2.726	0,000
Time Management -> Social Support	0.273	0.287	0.11	2.484	0,013
Time Management -> Work Stress	0.256	0.262	0.124	2.064	0,040

The findings from the table indicate that Workload has a positive and significant impact on Social Support, as reflected in the original sample value of 0.693, a t-statistic of 6.351, and a p-value of 0.000. This suggests that the higher the perceived workload, the greater the social support received, whether from colleagues or the work environment. Similarly, Workload also has a significant positive effect on Work Stress, with an original sample value of 0.70, a t-statistic of 5.766, and a p-value of 0.000. These results indicate that teachers experiencing a higher workload tend to encounter greater stress levels.

Furthermore, Social Support exhibits a positive and significant effect on Work Stress, with an original sample value of 0.242, a t-statistic of 2.726, and a p-value of 0.000. While social support is generally expected to alleviate stress, these findings suggest that increased social support may also lead to heightened stress under certain conditions. This could be attributed to additional responsibilities, increased expectations, or greater attention from colleagues and superiors, which may contribute to work-related pressure.

In terms of Time Management, the results indicate a significant positive relationship with Social Support, with an original sample value of 0.273, a t-statistic of 2.484, and a p-value of 0.013. This suggests that teachers who demonstrate strong time management skills tend to receive greater social support. The underlying reason may be that well-organized teachers are perceived positively, making colleagues and supervisors more inclined to provide assistance. Interestingly, Time Management also has a significant positive effect on Work Stress, with an original sample value of 0.256, a t-statistic of 2.064, and a p-value of 0.040. While previous literature generally suggests that effective time management reduces stress, this study suggests that in certain contexts, teachers with strong time management abilities may be assigned additional responsibilities due to their perceived capability, ultimately leading to higher stress levels.

Overall, all five estimated relationships are significant at the 5% level, confirming that Workload is the strongest predictor of both Social Support and Work Stress. Meanwhile, Time Management also plays a role in influencing these variables, albeit with smaller coefficients. Moreover, Social Support exhibits a positive association with Work Stress, indicating that increased support may, in some cases, bring additional responsibilities or expectations that contribute to stress. These findings underscore the critical need to balance workload and time management effectively while also recognizing the nuanced impact of social support on stress levels. Understanding these dynamics is essential in developing workplace strategies that promote both productivity and well-being.

Table 7. Indirect Test Results

Path	Original Sample (O)	Sample Mean (M)	Standard Deviation	T Statistics (O/STD)	P Valu es
Workload → Social Support → Work Stress	0.168	0.149	0.089	2.886	0.000
Time Management → Social Support → Work Stress	0.066	0.073	0.058	2.135	0.000

The mediation analysis results indicate that both Workload and Time Management have an indirect and significant effect on Work Stress through Social Support. For the Workload → Social Support → Work Stress pathway, the analysis yields an Original Sample value of 0.168 and a T-Statistic of 2.886. Given the common significance threshold ($t \geq 1.96$ at $\alpha = 5\%$), this result confirms that Workload indirectly influences Work Stress through Social Support in a statistically significant manner. These findings suggest that individuals experiencing a higher workload tend to seek or receive greater social support. However, rather than mitigating stress, this increased Social Support does not effectively reduce Work Stress and, instead, remains positively correlated with it. This implies that the burden of responsibilities persists despite the presence of social support.

Similarly, the Time Management → Social Support → Work Stress pathway also demonstrates a significant effect, with an Original Sample value of 0.066, a T-Statistic of 2.135, and a P-Value of 0.000. This suggests that individuals who demonstrate better time management skills are more likely to receive Social Support. However, rather than alleviating stress, the findings indicate that this situation is accompanied by an increase in Work Stress. A possible explanation is that those with strong time management skills are perceived as more capable, leading to higher expectations and additional responsibilities, which, in turn, contribute to increased stress levels.

Overall, both mediation pathways through Social Support are confirmed to be statistically significant. Although Social Support is generally expected to reduce Work Stress, the findings of this study reveal a positive correlation between Social Support and Work Stress. This suggests that the increased Workload or enhanced Time Management skills may lead to heightened expectations and additional tasks, making Social Support insufficient in lowering stress. These results emphasize the importance of understanding workplace

dynamics, ensuring a balanced distribution of workload, and recognizing that increased support may sometimes lead to unintended pressures. However, these findings should be interpreted within the specific research context, taking into account the characteristics of the respondents and their work environment.

CONCLUSION

The research findings indicate that Workload and Time Management both contribute to Work Stress, both directly and indirectly through Social Support. Interestingly, Social Support exhibits a positive relationship with Work Stress, suggesting that in this context, social support does not function as a “stress reliever” but rather has the potential to increase pressure or introduce new expectations. These findings are crucial for further investigation, such as examining the specific types of social support provided, the extent to which such support is beneficial, or whether it inadvertently adds to teachers’ role burdens.

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