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The Effect of Work Environment and Workload on Employee Performance Through Work Stress as an Intervening Variable: a Study at the Badung Regency Regional Financial and Asset Management Agency

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Abstract

This study aims to analyze the effects of work environment and workload on employee performance, both directly and indirectly through work stress as an intervening variable at the Badung Regency Regional Financial and Asset Management Agency. This study employed a quantitative approach with a causal research design. The population consisted of 100 employees, all of whom were selected as respondents using a saturated sampling technique. Data were collected through observation, interviews, questionnaires, and documentation, and analyzed using descriptive statistics, multiple regression, path analysis, and the Sobel test. The results indicate that the work environment has a negative and significant effect on work stress and a positive and significant effect on employee performance. Workload has a positive and significant effect on work stress and a negative and significant effect on employee performance. However, work stress has a negative but insignificant effect on employee performance. Furthermore, work stress does not significantly mediate the effects of either the work environment or workload on employee performance. These findings highlight the importance of maintaining a conducive work environment and managing workload proportionally to support optimal employee performance.

Keywords: Work environment, workload, work stress, employee performance.

INTRODUCTION

The era of bureaucratic reform and the increasing demand for good governance have positioned the quality of Civil Servants' (ASN) performance as an important factor

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in the successful administration of local government. Optimal employee performance is essential to support public organizations in providing effective, efficient, transparent, and accountable services. Human resources are strategic organizational assets that must be managed professionally to achieve a balance between employee capabilities and organizational demands. Employee performance is influenced by various internal and external factors, including the work environment and workload. A conducive work environment can enhance employee comfort, concentration, and productivity, whereas an excessive workload may cause fatigue and reduce employees' ability to achieve optimal performance.

The work environment encompasses physical and non-physical conditions, including workplace facilities, spatial arrangements, interpersonal relationships, and communication with supervisors. Handoko et al. (2021) explain that the work environment refers to the atmosphere and conditions in the workplace that may influence employee comfort, satisfaction, and performance. Meanwhile, workload refers to the amount and difficulty of tasks that employees must complete within a certain period. Workload includes both physical and psychological demands (Krisdianto et al., 2023), while emphasize the amount of work, deadlines, and employees' perceptions of assigned tasks (Kurniawan & Uswatun, 2021). An unfavorable work environment and excessive workload may increase pressure and contribute to work stress, which can subsequently impair employee performance.

Work stress occurs when job demands are perceived as disproportionate to employees' abilities, time, or available resources. Jiang et al. (2022) define work stress as a condition arising from an imbalance between job demands and the physical, psychological, and emotional resources available to employees. High levels of work stress may result in decreased concentration, motivation, productivity, and quality of work. The Badung Regency Regional Financial and Asset Management Agency (BPKAD) is a local government agency with a strategic role in managing regional finances and assets, requiring accuracy, precision, and compliance with regulations. The complexity of tasks, particularly during financial report preparation, asset management, and adjustments to regional financial policies, may increase workload and work stress when not supported by an adequate work environment.

Based on preliminary observations, several problems related to the work environment, workload, and work stress were identified among employees at BPKAD Badung Regency. The work environment was considered not fully supportive due to limited facilities, less ergonomic workspace arrangements, and high levels of interaction

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within relatively confined workspaces. Some employees also face numerous tasks within limited timeframes, additional duties beyond their primary responsibilities, and urgent work deadlines. These conditions may cause employees to work under considerable time and performance pressure, resulting in fatigue and psychological tension. Such phenomena indicate the need to further examine the relationship between working conditions, workload, work stress, and employee performance.

The employee absenteeism data of BPKAD Badung Regency in 2025 further indicate fluctuations in employee attendance, with a total annual absenteeism percentage of 9.20%. The highest absenteeism rates occurred in October at 1.46% and March at 1.16%, while the lowest rates were recorded in November at 0.38% and December at 0.41%. Although absenteeism cannot directly establish the presence of work stress, these fluctuations may indicate working conditions that warrant further investigation. Theoretically, the work environment and workload may influence employee performance directly or indirectly through work stress. Work stress may therefore function as an intervening variable that explains the mechanism through which the work environment and workload affect employee performance.

Previous studies have examined the relationships among work environment, workload, work stress, and employee performance; however, their findings remain inconsistent, particularly regarding the role of work stress as an intervening variable (Octarina & Ardana, 2022; Ridwan et al., 2022; Sari et al., 2022). Research specifically examining these relationships within local government agencies, particularly regional financial and asset management institutions, also remains relatively limited. This condition indicates a research gap that requires further empirical investigation. Therefore, this study aims to analyze the effect of the work environment and workload on employee performance through work stress as an intervening variable at BPKAD Badung Regency. The findings are expected to contribute theoretically to human resource management research and practically assist BPKAD Badung Regency in developing a more conducive work environment and proportionate workload management to reduce work stress and improve employee performance.

METHOD

This study employed a quantitative approach with a causal research design to examine the effects of work environment and workload on employee performance through work stress as an intervening variable. The study population consisted of all employees of the Badung Regency Regional Financial and Asset Management Agency

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(BPKAD), totaling 100 employees; thus, all members of the population were included as the sample using a saturated sampling technique. The independent variables were work environment (X1) and workload (X2), the intervening variable was work stress (Z), and the dependent variable was employee performance (Y). Primary data were collected through questionnaires developed based on indicators for each variable and measured using a five-point Likert scale, while secondary data were obtained through documentation and institutional records. Data collection was conducted through observation, questionnaires, interviews, and documentation studies. The research instruments were assessed using validity and reliability tests, while classical assumption tests included normality, multicollinearity, and heteroscedasticity tests.

The data were analyzed using SPSS through descriptive statistical analysis and path analysis to examine both direct and indirect relationships among the variables. The analytical model consisted of two structural equations: the first examined the effects of work environment and workload on work stress, while the second examined the effects of work environment, workload, and work stress on employee performance. Hypotheses were tested partially by comparing the significance values at a 5% significance level ($\alpha = 0.05$), while the indirect effects and the mediating role of work stress were examined using the Sobel test. Work stress was considered to significantly mediate the relationship between the independent and dependent variables when the Sobel test statistic exceeded 1.98 at the 5% significance level.

RESULT AND DISCUSSIONS

Classical Assumption Tests

The results of the classical assumption tests indicate that the research model met the requirements for regression analysis. The residuals were normally distributed, no multicollinearity was detected among the independent variables, and no heteroscedasticity was identified. Therefore, the model was considered appropriate for subsequent path analysis. It can be seen in Table 1:

Table 1. Results of Classical Assumption Tests

Test	Indicator/Criterion	Result	Conclusion
Normality	Asymp. Sig. > 0.05	0.200	Normally distributed
Multicollinearity X1	Tolerance = 0.819; VIF = 1.221	Meets criterion	No multicollinearity

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Multicollinearity X2	Tolerance = 0.865; VIF = 1.156	Meets criterion	No multicollinearity
Multicollinearity Z	Tolerance = 0.840; VIF = 1.190	Meets criterion	No multicollinearity
Heteroscedasticity X1	Sig. > 0.05	0.371	No heteroscedasticity
Heteroscedasticity X2	Sig. > 0.05	0.391	No heteroscedasticity
Heteroscedasticity Z	Sig. > 0.05	0.658	No heteroscedasticity

Path Analysis and Hypothesis Testing

The path analysis indicates that the work environment has a negative and significant effect on work stress, whereas workload has a positive and significant effect on work stress. Furthermore, the work environment has a positive and significant effect on employee performance, while workload has a negative and significant effect on employee performance. Work stress has a negative but statistically insignificant effect on employee performance. It can be seen in Table 2:

Table 2. Results of Path Analysis and Hypothesis Testing

No.	Relationship	Path Coefficient	Sig.	Decision
H1	Work Environment → Work Stress	−0.390	0.000	Accepted
H2	Workload → Work Stress	0.298	0.002	Accepted
H3	Work Environment → Employee Performance	0.265	0.008	Accepted
H4	Workload → Employee Performance	−0.268	0.005	Accepted

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H5	Work Stress → Employee Performance	−0.135	0.157	Rejected

Mediation Effect Testing

The mediation analysis shows that work stress does not significantly mediate the relationship between work environment and employee performance, as indicated by the Sobel test value of 1.34, which is below the critical value of 1.98. Similarly, work stress does not significantly mediate the relationship between workload and employee performance, with a Sobel test value of −1.29. Therefore, both mediation hypotheses were rejected. It can be seen in Table 3:

Table 3. Results of Indirect Effect and Mediation Testing

No.	Mediation Relationship	Indirect Effect	Sobel Z	Criterion	Decision
H6	Work Environment → Work Stress → Employee Performance	0.053	1.34	Z < 1.98	Rejected
H7	Workload → Work Stress → Employee Performance	−0.040	−1.29	|Z| < 1.98	Rejected

Coefficient of Determination

The total coefficient of determination (R^2) was 0.357, indicating that the variables included in the research model explained 35.7% of the variance in employee performance. The remaining 64.3% was attributable to other factors outside the research model. It can be seen in Table 4:

Table 4. Coefficient of Determination

Indicator	Value
Total R^2	0.357
Variance explained by the model	35.7%
Variance explained by other factors	64.3%

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The Effect of Work Environment on Work Stress

The findings indicate that the work environment has a negative and significant effect on work stress among employees of the Badung Regency Regional Financial and Asset Management Agency (BPKAD). This finding indicates that a better work environment is associated with lower levels of work stress experienced by employees. The descriptive results show that the work environment was generally perceived as good, particularly in terms of clear work regulations, workplace security, harmonious relationships among employees, adequate lighting, and comfortable room temperature. A supportive work environment provides employees with a sense of comfort, security, and psychological stability, thereby reducing the potential for work-related stress.

The finding also suggests that clear work regulations play an important role in reducing uncertainty in employees' daily tasks. When employees understand their responsibilities, procedures, and applicable regulations, they are less likely to experience confusion or psychological pressure (Oshio et al., 2021). In the context of BPKAD, where employees are required to perform tasks involving financial and asset management with a high degree of accuracy and regulatory compliance, a supportive working environment becomes particularly important. Therefore, maintaining workplace comfort, security, interpersonal relationships, and clarity of work regulations may contribute to reducing employee stress.

The Effect of Workload on Work Stress

The results demonstrate that workload has a positive and significant effect on work stress. This means that an increase in workload tends to be accompanied by an increase in employees' work stress. The finding is consistent with the nature of BPKAD's work, which involves various administrative and financial responsibilities that require accuracy, timeliness, and compliance with regulations. During periods of increased activity, such as financial reporting, budget evaluation, and supervisory audits, employees may face higher work demands within limited periods. Such conditions can increase physical and psychological pressure when workload is not accompanied by proportional task distribution and adequate resources (van den Oetelaar et al., 2021).

Although the descriptive analysis indicates that workload was generally perceived as good, the relatively lower assessment of work standards suggests that some employees may still experience uncertainty regarding the expected standards of their tasks. Unclear or less appropriate work standards can make it more difficult for employees to prioritize tasks and manage their available time effectively. Therefore,

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workload management should not only focus on the quantity of tasks but also on the clarity of work standards, task distribution, and available completion time.

The Effect of Work Environment on Employee Performance

The findings reveal that the work environment has a positive and significant effect on employee performance. This indicates that improvements in the work environment are associated with improvements in employee performance. The descriptive results show that employees generally perceived the work environment positively, including work facilities, lighting, workplace security, interpersonal relationships, and clarity of work regulations. A comfortable and supportive environment enables employees to maintain concentration and perform their tasks more effectively and productively (Bäcklander & Richter, 2022).

The results further indicate that clear work regulations received a relatively high assessment, suggesting that employees understand the rules governing their duties. Such clarity enables employees to understand their responsibilities and work procedures, allowing tasks to be completed in a more structured manner. Harmonious relationships among employees may also facilitate coordination and cooperation in completing organizational tasks. Therefore, maintaining a conducive work environment is important for sustaining and improving employee performance at BPKAD Badung Regency.

The Effect of Workload on Employee Performance

The findings show that workload has a negative and significant effect on employee performance. This result indicates that higher workload tends to reduce employee performance, whereas a workload distributed proportionally according to employees' capabilities may support more optimal performance. Although the overall workload was categorized as good, the relatively lower assessment of work standards indicates that some aspects of workload management still require improvement. Unclear work standards may make it difficult for employees to determine priorities and complete tasks efficiently.

This finding is particularly relevant to BPKAD because employees are responsible for administrative and financial activities such as budget preparation, document verification, asset management, and financial reporting. During periods of increased workload, employees are required to maintain high levels of concentration, accuracy, and timeliness. If increased workload is not accompanied by proportional task allocation

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and sufficient organizational support, employees may experience physical and mental fatigue, which can subsequently reduce their work effectiveness (Kumalasari & Elgeka, 2024).

The Effect of Work Stress on Employee Performance

The results indicate that work stress has a negative but statistically insignificant effect on employee performance. The negative coefficient suggests that higher levels of work stress tend to be associated with lower employee performance; however, the effect was not sufficiently strong to reach statistical significance. Thus, the study does not provide sufficient empirical evidence to conclude that work stress directly determines employee performance in the BPKAD Badung Regency context.

This finding may indicate that employees are able to maintain their performance despite experiencing certain levels of work stress. The descriptive results show that work stress was at a moderate level, while employee performance was categorized as very good. Therefore, the level of stress experienced by employees may not have reached a level that substantially disrupts their ability to complete their responsibilities (Ridha et al., 2022). This result also suggests that other factors, particularly the work environment and workload, may have a more direct role in determining employee performance within the research model.

The Mediating Role of Work Stress

The mediation analysis demonstrates that work stress does not significantly mediate either the relationship between work environment and employee performance or the relationship between workload and employee performance. The indirect effect of work environment on employee performance through work stress was 0.053, with a Sobel test value of 1.34, which was below the critical value of 1.98. Similarly, the indirect effect of workload on employee performance through work stress was −0.040, with a Sobel test value of −1.29, indicating that the mediation effect was not statistically supported.

The absence of a significant mediation effect suggests that the influence of work environment and workload on employee performance is more directly associated with employees' ability to perform their tasks than with work stress as an intervening mechanism (Ekhsan & Masruri, 2022). This interpretation is supported by the significant direct effects of work environment and workload on employee performance, while the direct effect of work stress on employee performance was not significant. Therefore, the

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findings emphasize the importance of maintaining a conducive work environment and managing workload proportionally as more immediate factors in supporting employee performance at BPKAD Badung Regency.

CONCLUSION

The study concludes that the work environment has a negative and significant effect on work stress and a positive and significant effect on employee performance, while workload has a positive and significant effect on work stress and a negative and significant effect on employee performance at the Badung Regency Regional Financial and Asset Management Agency. Meanwhile, work stress has a negative but insignificant effect on employee performance. Furthermore, work stress does not significantly mediate the effects of either the work environment or workload on employee performance. These findings indicate that improving workplace conditions and managing workload proportionally are more important direct factors in supporting employee performance, while the role of work stress as an intervening variable is not statistically supported in this research model.

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