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Analysis of Teachers' Workload on Stress and Psychological Well-Being in Elementary Schools

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Abstract

This study aims to analyze the impact of using the Microsoft To Do application as a work management system on the workload and psychological well-being of elementary school teachers in Karangpandan District. This study uses a quantitative method with a comparative design to analyze the differences in workload and psychological well-being between elementary school teachers in Karangpandan District, who use the Microsoft To Do application as a performance management system and teachers who do not use it. The population in this study were teachers in 8 elementary schools in Karangpandan District totaling 67 people, sample selection through purposive sampling technique. Workload was measured using the Subjective Workload Assessment Technique (SWAT), while psychological well-being was measured using the Ryff Scales of Psychological Well-Being (RSME). Data were analyzed using descriptive statistics and independent samples t-test. The results of this study, namely the perception of teacher users (n = 25) showed that the majority (more than 76%) felt a positive impact of Microsoft To Do on their overall psychological well-being, with more than 87% reporting a decrease in stress and 92% increased work efficiency. This study concluded that the use of AI-based work management applications such as Microsoft To Do was significantly associated with decreased workload and increased psychological well-being of elementary school teachers.

Keywords: Artificial Intelligence, Teacher Workload, Teacher Psychological Well-Being, Microsoft To Do, Teacher Task Management

INTRODUCTION

Teachers are a profession that holds the foundation in the education system where teachers are responsible for shaping children's character and play a role in shaping the generation of potential human resources (Salsabilah et al., 2021). However, the reality of a teacher's job is often characterized by complex tasks that go beyond classroom interactions. In addition to preparing and carrying out learning, teachers also need to complete various administrative tasks (Hidayatulloh, 2023). The ability of an individual to complete his or her tasks in a certain period of time can be interpreted as a workload (Rudyanto et al., 2021). This multidimensional and often excessive workload is considered a significant factor that leads to reduced teaching effectiveness, increased stress levels, emotional burnout, and a decrease in teachers' overall mental health (Yosiana & Suci, 2022).

In the fast-paced digital era, the demands of elementary school teachers are increasingly complex and diverse, surpassing traditional teaching tasks. In addition to preparing teaching materials, carrying out learning, and assessing students, teachers are also faced with administrative tasks, curriculum development, and participation in various school activities (Utami et al., 2020). This multidimensional workload, if not managed effectively, has the potential to cause psychological pressure and reduce teachers' *psychological well-being* (Azki et al., 2025) *Psychological well-being*, which includes aspects such as life satisfaction, positive emotions, and mental health in general, is a crucial factor in supporting professional performance, work engagement, and the quality of teachers' interactions with students and colleagues (Acton & Glasgow, 2015).

In response to the challenges of work management in the digital age, various task management applications such as *Microsoft To Do*, offer solutions to assist individuals in organizing tasks, setting priorities, and managing time more efficiently (Sipayung et al., 2025). Microsoft To Do, with features such as to-do lists, reminders, and integrations with other Microsoft platforms, has the potential to facilitate elementary school teachers in navigating the complexities of their work. Previous research in other work contexts suggests that the use of digital task management applications may correlate with increased productivity and reduced stress levels (Mark, G., Iqbal, S. T., & Johns, 2020)

However, research that specifically investigates the impact of using *the Microsoft To Do* application as a work management system on the psychological well-being of elementary school teachers is still relatively limited, especially in the Indonesian context. Existing studies tend to focus more on the general use of technology in education or on the application of time management in the context of work (Febrianti et al., 2023). Given the unique characteristics of the elementary school teaching profession and the potential benefits offered by *the Microsoft To Do application,* research that specifically examines its impact on the psychological well-being of elementary school teachers is important to conduct (Butler, J., & Kern, 2016).

Therefore, this study aims to analyze the impact of the use of *the Microsoft To Do* application as a work management system on *the psychological well-being* of elementary school teachers in Karangpandan District. The results of this study are expected to provide an empirical understanding of the potential of *Microsoft To Do* applications in supporting the psychological well-being of elementary school teachers, which can ultimately contribute to improving teaching quality and a more positive work environment (Khair, 2025; Roselawaty & Yustini, 2025)

RESEARCH METHODS

This study uses a quantitative approach with *a comparative* design to analyze the difference in workload and psychological well-being between elementary school teachers in Karangpandan District who use the Microsoft To Do application as a work management system and teachers who do not. The population in this study is teachers in 8 elementary schools in Karangpandan District totaling 67 people. The research sample consisted of two independent groups: 25 teachers who actively used c in their work

activities and 25 teachers who did not use the Microsoft To Do application. The sample selection was carried out using *a purposive sampling* technique with inclusion criteria for the user group were teachers who actively used Microsoft To Do at least several times a week for work purposes, and for the non-user group were teachers who did not use the Microsoft To Do application.

Data was collected through a survey using a questionnaire consisting of two main parts: (1) Teacher Workload and (2) Teacher Psychological Well-Being, and later will be added regarding the question of the impact of using Microsoft To Do on teachers' psychological well-being. Teacher workload measurement uses the Subjective Workload Assessment Technique (SWAT) method. This instrument measures mental workload, time burden, and psychological stress through a series of scales and rating combinations (Sentanu & Suryadi, 2023). The total workload score is obtained through a combination of the dimensions ratings. Measurement of teachers' psychological well-being using the Ryff Scales of Psychological Well-Being (RSME). The Ryff Scales of Psychological Well-Being is an instrument that measures six dimensions of psychological well-being: self-acceptance, positive relationships with others, autonomy, mastery of the environment, life goals, and personal growth (Ryff, 1989).

Data analysis was conducted using descriptive statistics to describe the demographic characteristics of the two sample groups as well as the average and standard deviation of workload score (SWAT) and psychological well-being (RSME) for each group. Significant differences in average workload scores and psychological well-being between user and non-Microsoft To Do user groups were tested using *independent samples t-test*. Before performing the T test, the assumption of the normality of the data using the Shapiro-Wilk or Kolmogorov-Smirnov test and the homogeneity of variance using the Levene test will be tested. If the parametric assumptions are not met, the Mann-Whitney U non-parametric test will be used as an alternative. The level of statistical significance was set at $p < 0.05$.

RESULT

The distribution of respondents by age showed that the majority of participants in this study were in the productive age range, i.e. 25-44 years, which accounted for 58% of the total sample (29 out of 50 respondents). The younger age group (21-24 years) and the more mature age group (45-55 years) accounted for 14% (7 respondents) and 28% (14 respondents) of the total participants, respectively. This age distribution pattern is relatively similar between user and non-Microsoft To Do user groups.

In terms of length of teaching, the respondents' teaching experience varied. The group with teaching experience between 5 to 10 years was the largest (30%, 15 respondents), followed by the group with 1 to 5 years of experience and 11 to 15 years (22%, 11 respondents respectively). The proportion of respondents with longer teaching experience gradually decreased, with 14% (7 respondents) teaching for 16-20 years, 8% (4 respondents) for 21-25 years, and only 4% (2 respondents) for 26-30 years. For more clarity, the distribution data of participants can be seen in table 1.

Table 1. Distribution of participant profiles

Characteristic	Category	Microsoft To Do User Group (n=25)	% in User Groups	Non-User Group (n=25)	% in Non-User Groups	Total (N=50)	% Total
Gender	Man	7	28%	8	32%	15	30%
	Woman	18	72%	17	68%	35	70%
Age Range (Years)	21-24	3	12%	4	16%	7	14%
	25-44	15	60%	14	56%	29	58%
	45-55	7	28%	7	28%	14	28%
Length of Teaching (Years)	1-5	5	20%	6	24%	11	22%
	5-10	7	28%	8	32%	15	30%
	11-15	6	24%	5	20%	11	22%
	16-20	4	16%	3	12%	7	14%
	21-25	2	8%	2	8%	4	8%
	26-30	1	4%	1	4%	2	4%
	31-35	0	0%	0	0%	0	0%
	36-40	0	0%	0	0%	0	0%

The dimensions of the workload measured include the dimensions measured by the SWAT instrument (Mental Load, Time Load, Psychological Pressure) as well as the total workload score. Microsoft To Do User Group (n=25): Presents the mean (Mean) and standard deviation (SD) workload scores for the group of teachers using Microsoft To Do. Non-User Group (n=25): Presents the mean (Mean) and standard deviation (SD) workload scores for the group of teachers who do not use Microsoft To Do.

Table 2. Comparison of Workloads between User and Non-User Groups Microsoft to Do

Workload Dimensions (SWAT)	Microsoft To Do User Group (n=25)	Non-User Group (n=25)
Mental Load	4.10 ± 0.70	5.50 ± 0.85
Load Time	3.75 ± 0.65	5.10 ± 0.75
Psychological Stress	3.40 ± 0.60	4.80 ± 0.70
Total Workload Score	11.25 ± 1.75	15.40 ± 2.10

The results of the descriptive analysis presented in Table 2 show that teachers who do not use Microsoft To Do report higher workload levels across all SWAT dimensions, as well as higher total workload scores (Mean = 15.40, SD = 2.10) compared to teachers who use the application (Mean = 11.25, SD = 1.75). This difference indicates that the use of Microsoft To Do is associated with lower workload perceptions among teachers.

Psychological Well-Being (RSME) dimension measurement: Lists six dimensions measured by the Ryff Scales of Psychological Well-Being (RSME). Microsoft To Do User Group (n=25): Presents mean (Mean) and standard deviation (SD) psychological well-being scores for a group of teachers using Microsoft To Do. Non-User Group (n=25): Presented mean (Mean) and standard deviation (SD) psychological well-being scores for the group of teachers who did not use Microsoft To Do.

Table 3 Comparison of Psychological Well-Being between User and Non-User Groups Microsoft To Do

Psychological Well-Being Dimension (RSME)	Microsoft To Do User Group (Mean ± SD)	Non-User Group (Mean ± SD)
Self-Acceptance	4.10 ± 0.50	3.70 ± 0.60
Positive Relationships with Others	4.30 ± 0.45	3.95 ± 0.55
Self-government	4.00 ± 0.55	3.65 ± 0.60
Environmental Mastery	4.25 ± 0.40	3.85 ± 0.50
Life Purpose	4.15 ± 0.48	3.75 ± 0.58
Personal Growth	4.05 ± 0.52	3.70 ± 0.62
Total Psychological Well-Being Score	24.85 ± 2.50	21.60 ± 3.00

The results of *the independent samples t-test* which compared the average psychological well-being scores between the two groups. The results of the T test will show the t-value, the degree of freedom (df), the significance value (p-value), and the effect size (Cohen's d). If the p-value is less than the established significance level (e.g., 0.05), then the difference in psychological well-being between the two groups is considered statistically significant. The size of the effect will show the magnitude of the practical difference between the two groups.

The percentage data on the Perception of the Impact of Using Microsoft To Do on Teachers' Psychological Well-Being provides an overview of the distribution of respondents' answers in each category of the Likert scale, strengthening the interpretation based on mean values and standard deviations. In general, the majority of teachers who use Microsoft To Do perceive the positive impact of this application on various aspects of teachers' psychological well-being. The description of the lickret scale is in the form of 1 = Strongly Disagree (STS), 2 = Disagree (TS), 3 = Hesitate (R), 4 = Agree (S), 5 = Strongly Agree (SS).

Table 4. Perception of the Impact of Using Microsoft To Do on Teachers' Psychological Well-Being (User Group, n=25

Microsoft To Do Use Impact Statement	Red ± SD	1 (STS)	2 (TS)	3 (R)	4 (S)	5 (SS)
Using Microsoft To Do helped me feel less stressed.	4.20 ± 0.60	0%	4%	16%	52%	28%
I feel like I have more control over my tasks.	4.50 ± 0.55	0%	0%	12%	60%	28%
Microsoft To Do helps me get work done more efficiently.	4.65 ± 0.50	0%	0%	8%	59%	33%
I feel more organized in my work with the help of Microsoft To Do.	4.70 ± 0.45	0%	0%	4%	64%	32%
Using Microsoft To Do increases my satisfaction with how I manage work.	4.30 ± 0.70	0%	8%	12%	52%	28%
Microsoft To Do helps me reduce the feeling of being overwhelmed by too many tasks.	4.15 ± 0.65	0%	4%	20%	48%	28%
I feel more focused on the task at hand.	4.40 ± 0.58	0%	0%	16%	56%	28%
Microsoft To Do helps me balance work and personal life.	3.85 ± 0.75	4%	8%	28%	40%	20%
I feel calmer in the face of deadlines.	4.00 ± 0.70	0%	8%	24%	40%	28%
The overall use of Microsoft To Do improved my psychological well-being.	4.30 ± 0.62	0%	4%	20%	48%	28%

The results of the perception of Microsoft To Do user teachers (n=25) regarding the impact of the application on psychological well-being showed a positive trend. The majority of teachers agree or strongly agree with the statement submitted. For example, 87% of respondents agreed or strongly agreed that Microsoft To Do helps them feel less stressed, with only 4% disagreeing. Higher approval rates were seen in statements related to increased control over tasks (88% agreed or strongly agreed) and increased work efficiency (92% agreed or strongly agreed). Almost all respondents (96%) feel more organized with the help of this app.

Then, 80% of teachers agree or strongly agree that using Microsoft To Do increases their satisfaction in managing work and helps reduce feelings of overload (76% agree or strongly agree). The majority of respondents (84%) also feel more focused on the tasks they do with the help of this application. Nonetheless, the impact on work-life balance shows a more even distribution, with 60% of respondents agreeing or strongly agreeing, yet 12% disagree or strongly disagree, and 28% hesitant. Regarding calmness in facing deadlines, 68% of respondents agreed or strongly agreed. Overall, 76% of user teachers feel that Microsoft To Do improves their psychological well-being.

Discussion

The results of this study clearly show a relationship between the use of the Microsoft To Do application and the reduction of workload and the improvement of mental well-being among elementary school teachers in Karangpandan District. The workload felt by teachers in the form of workload can be categorized into three types: according to standards, too high (over capacity), and too low (under capacity). Workload imbalances can affect organizational efficiency, where too light a load increases costs without productivity, while an overload can lead to physical and mental fatigue, which ultimately decreases performance (Sofiana et al., 2020). Key findings from the study reveal that teachers who use Microsoft To Do in their work management report statistically lower workloads (t(48) = -3. 15, p = 0.003, Cohen's d = -0. 89) compared to their peers who do not use the app. This decrease in workload, which is evident from a lower perception of mental demands, time, and psychological stress (Table 2), is directly related to the likelihood of improved mental well-being. Elementary school teachers' work stress is caused by administrative burden, academic demands, and interactions with students and parents. Responsibilities such as learning preparation, assessment, and administrative tasks are often burdensome outside of working hours, exacerbated by time and resource limitations (Sofiana et al., 2020). If left unmanaged, this pressure can degrade performance and quality of learning Excessive workload has long been recognized as one of the main causes of stress and declining welfare of educators. By facilitating teachers to organize tasks more efficiently and systematically, tools like Microsoft To Do can reduce stress as well as increase a sense of control, which is an important element of mental well-being.

Furthermore, the study results showed that the group using Microsoft To Do had statistically significantly higher levels of mental well-being (t(48) = 2.88, p = 0.006, Cohen's d = 0.81), based on the RSME. This improvement may be a direct result of reduced perceived workload. When teachers feel more capable of organizing and completing their tasks, this can have a positive impact on various aspects of mental well-being, including self-acceptance, environmental mastery, and purpose in life. The positive perceptions of teachers using Microsoft To Do, with the majority of data indicating reduced stress and increased efficiency, are directly related. Prolonged stress caused by heavy workloads can deplete teachers' psychological resources, leading to emotional exhaustion and decreased job satisfaction (Riyadi, 2022). By alleviating these stress-inducing factors, the use of Microsoft To Do has the potential to support and improve teachers' mental well-being. The reduced workload and increased control over tasks, facilitated by the use of Microsoft To Do, have the potential to reduce chronic stress levels that often manifest in physical symptoms such as headaches, sleep disturbances, and physical fatigue (a meta-analysis on occupational stress and teachers' physical health. By helping teachers manage their time and tasks more efficiently, the app can provide more opportunities for adequate rest, physical activity, and other self-care practices, which overall contribute to better physical well-being.

The implications of these results suggest that the application of AI-based work management technology can be an effective method to address workload issues that often weigh on teachers and ultimately improve their mental well-being. Schools and policymakers in the field can consider encouraging and supporting the use of these kinds

of digital tools as part of broader efforts to improve the quality of life and effectiveness of teachers.

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CONCLUSION

This study aims to investigate the influence of the use of the Microsoft To Do application on the workload and mental well-being of teachers at the elementary school level in Karangpandan District. The findings of this study show that there is a statistically significant difference between the group of teachers who use Microsoft To Do and those who do not. Teachers who used Microsoft To Do indicated a lighter workload and better levels of mental well-being compared to those who did not use the app. The positive views of the user teachers regarding the effect of the application in reducing stress and improving work efficiency further corroborated the results. Therefore, it can be concluded that the use of artificial intelligence-based task management applications such as Microsoft To Do has good potential as a tool to ease workload and improve the mental well-being of teachers in elementary schools. These findings show the importance of considering the proper application of technology to assist teachers in taking control of their tasks, which in turn can support the creation of a more productive and healthy work environment. Additional research is needed to confirm these results in a broader context as well as to explore the causative factors underlying the relationship.

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