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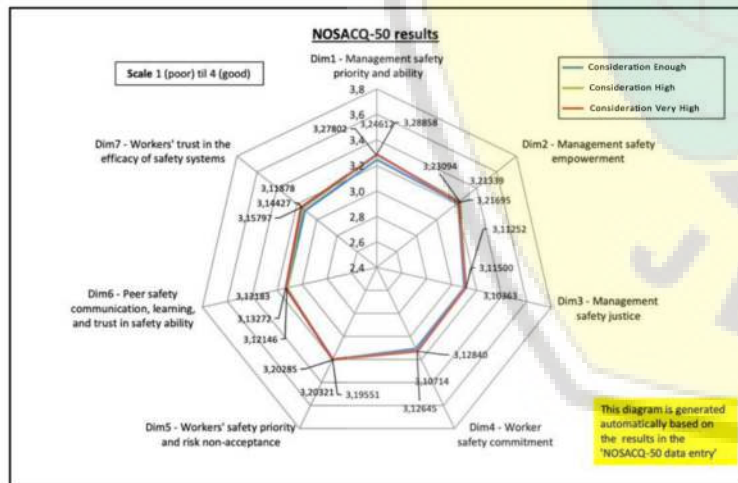
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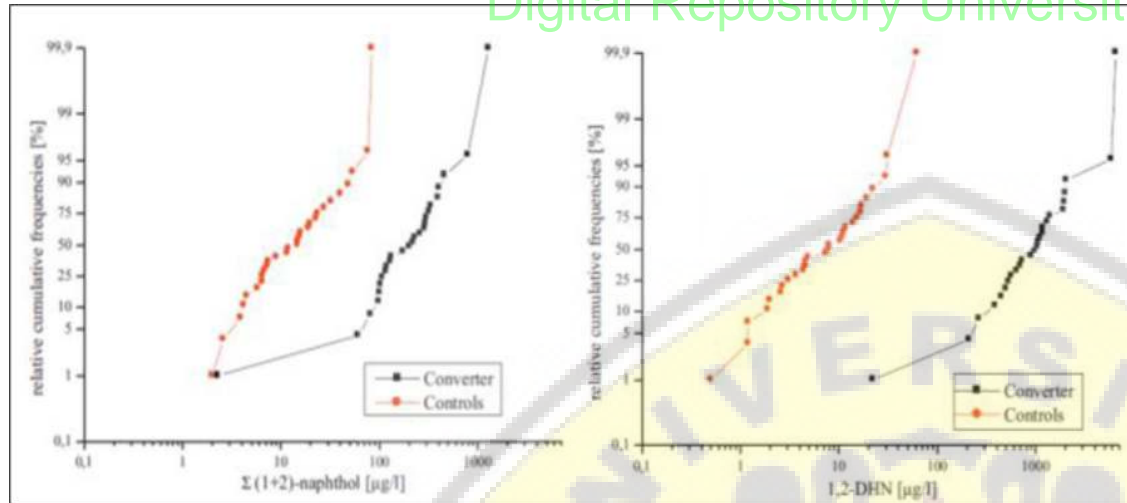
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Teacher's Job Stress Associated with a Virtual Class Application and Work Duration during Covid-19 Pandemic

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ABSTRACT

Introduction: The increasing number of Covid-19 cases in Indonesia triggers fear and anxiety in the community and causes stress. Teachers who work are at risk of experiencing job stress. The change in the learning system from face-to-face to distance learning requires teachers to adapt to the new technology applied. The purpose of this research was to analyze the relationship between the understanding of the Google Classroom application and duration of work during the Covid-19 pandemic with job stress. **Methods:** This research is an analytical research with a cross sectional approach. The research was conducted in 8 public high schools in Nganjuk District, and the samples were 115 teachers. Data retrieval was done by using an online questionnaire via Google Form. The variables in this research were the understanding of the Google Classroom (knowledge, perceptions of the usefulness and ease of use), work duration and job stress. Bivariate analysis used Spearmans' Rho correlation test to determine the relationship between variables. **Results:** Most respondents had a moderate level of knowledge, and most of them had a fairly good perception of the usefulness and ease of use of the Google Classroom application. The duration of work that most respondents had was 2 hours, and the highest category of job stress was mild stress. **Conclusion:** The understanding of the Google Classroom application (knowledge of the Google Classroom application, the perception of the usefulness of the Google Classroom application and the perception of the ease of use of the Google Classroom application) and the duration of work had a significant relationship with job stress among public high school teachers in Nganjuk District during the Covid-19 pandemic.

Keywords: duration of work, job stress, understanding of the google classroom application

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INTRODUCTION

Coronavirus Disease 2019 (Covid-19) was reported by the World Health Organization (WHO) for the first time in Wuhan City, Hubei Province, China in December 2019 (Zhu *et al*., 2020). Indonesia reported 2 positive cases of Covid-19 on March 2, 2020. Covid-19 cases in Indonesia continue to increase and spread widely, thus triggering fear and anxiety in the community. Feelings of anxiety, fear and worry felt by the community during the pandemic are some of the emotional symptoms that indicate the occurrence of stress (Saleh, Russeng and Tadjuddin, 2020). Muslim (2020) categorizes stressful conditions during the pandemic into three, namely academic stress, family stress and job stress.

Job stress is a dangerous physical and emotional response that occurs when job requirements do not match the abilities, resources, and needs of workers (International Labour Organization, 2016). According to Farista (2018), jobs most at risk of causing job stress may include military personnel, nurses, waiters, teachers, miners, air traffic controllers, firefighters, pilots, managers and journalists. The job stress experienced by teachers is closely related to the Circular Letter No. 4 of 2020 by the Minister of Education and Culture of the Republic of Indonesia concerning the Implementation of Educational Policies in the Emergency Period of the Spread of Covid-19, which requires the learning process at all levels of education to be carried out from home (online).

One of the potential applications recommended by the Ministry of Education and Culture of the Republic of Indonesia for distance learning is Google Classroom. The advantage of the Google Classroom application when compared to other learning applications is that it is available for free for schools and has been connected to other Google features such as Google Drive. The research results of Azhar and Iqbal (2018) showed that some teachers in Pakistan have a perception that using the Google Classroom application can save teachers' work time

because they do not need to send assignments one by one to students' emails. The teacher's level of understanding of learning technology is an important aspect so that the distance learning process can run effectively. According to Ratna (2018), a person's inability to adapt and use information technology can be a factor causing job stress.

The teacher's understanding of the Google Classroom application can be measured by the level of teacher acceptance in the Google Classroom application. According to Tuffahati and Nugraha (2021), acceptance of technology can be seen from the perceived usefulness and perceived ease of use of technology users. Job stress of teachers is not only influenced by the understanding of learning technology but also influenced by work duration. The duration of work of a teacher during the distance learning period is related to the duration of using technology or applications to support online learning. The results of research by Klapproth *et al.* (2020) show that teachers who spend more time on distance learning in a day experience higher job stress than teachers with low working hours.

Nganjuk District is one of the regencies in East Java that is included in the Covid-19 red zone, so the learning process at all levels of education is carried out from home (online). During distance learning, 11 out of 14 public high schools in Nganjuk District use the Google Classroom application for online learning, but only a few schools have conducted training related to the use of the Google Classroom application because some schools are still adapting to changes in the existing system, so the training on the use of the application has not been prioritized. The results of the preliminary study also showed that in the last 3 months some teachers experienced symptoms of stress such as sleeping difficulty (36.5%), indigestion (25%), irritability (25%), difficulty in concentration (21.2%) and increased blood pressure (15%). Therefore, it is necessary to conduct research to determine the relationship between the understanding of the Google Classroom application which consists of knowledge of the Google Classroom application, perceptions of usefulness and perceptions of the ease of use of the Google Classroom application and work duration with job stress during the Covid-19 pandemic for public high school teachers in Nganjuk District.

METHODS

This research is an analytical research with a quantitative approach using a cross sectional design.

The research was conducted at 8 public high schools in Nganjuk District from February to May 2021. The number of population in this study was 165 people who were public high school teachers in Nganjuk District with inclusion criteria, namely willingness to be respondents in the study, schools that apply distance learning and teachers who use the Google Classroom application in distance learning. The samples of 115 respondents were taken using a proportionate stratified random sampling technique to obtain a representative sample of the study population from 8 different schools.

The independent variables consisted of the understanding the Google Classroom application (knowledge of the Google Classroom application, perceived usefulness and perceived ease of use of the Google Classroom application) and work duration, while the dependent variable was job stress. The knowledge variable of the Google Classroom application was measured using the knowledge questionnaire (Sidhu *et al.*, 2019). The perceived usefulness variable and the perceived ease of use of the Google Classroom application were measured using the Technology Acceptance Model (TAM) questionnaire Davis in Tuffahati and Nugraha (2021), while the job stress variable was measured using the standard DASS-42 questionnaire (Depression, Anxiety, Stress Scale). Validity and reliability tests were carried out on knowledge of the Google Classroom application instrument because it had been modified.

Data collection was done by using an online questionnaire technique via Google Form. The data were obtained from each variable on an ordinal

Table 1. Number of Research Samples

School	Sub Population	Samples
SMA Negeri 1 Kertosono	19	19/165 x 115 = 13.2 = 13
SMA Negeri 2 Nganjuk	15	15/165 x 115 = 10.5 = 10
SMA Negeri 1 Sukomoro	21	21/165 x 115 = 14.6 = 15
SMA Negeri 1 Berbek	29	29/165 x 115 = 20.2 = 21
SMA Negeri 1 Tanjunganom	22	22/165 x 115 = 15.3 = 15
SMA Negeri 1 Loceret	18	18/165 x 115 = 12.5 = 13
SMA Negeri 1 Ngronggot	22	22/165 x 115 = 15.3 = 15
SMA Negeri 1 Prambon	19	19/165 x 115 = 13.2 = 13

scale. In this study, the data were analyzed through univariate and bivariate analysis. Univariate analysis was used to generate distribution of data from the independent variables of the study and the dependent variables of the study. Bivariate analysis using the Spearman Rho correlation test was conducted to determine the relationship between the understanding of the Google Classroom application (knowledge of the Google Classroom application, perceived usefulness and perceived ease of use of the Google Classroom application) and work duration with job stress. This research has passed the ethical test and received a certificate with an ethic code 24/KEPK/FKM-UNEJ/IV/2021 from the Health Research Ethics Committee, Faculty of Public Health, University of Jember.

RESULTS

Frequency Distribution of the Understanding of the Google Classroom Application

Based on Table 2, it was found that most of the respondents had a moderate level of knowledge of the Google Classroom application, as many as 80 respondents with a percentage of 69.6%. In addition, most of the respondents had a perception of the usefulness of the Google Classroom application in a fairly good category, as many as 73 respondents with a percentage of 63.5%. On the ease of use

Table 2. Distribution of the Understanding of the Google Classroom Application on Public High School Teachers in Nganjuk District in 2021

Understanding of the Google Classroom Application	Frequency (n)	Percentage (%)
Knowledge of the Google Classroom Application		
Less	7	6.1
Moderate	80	69.6
High	28	24.3
Perceived Usefulness of the Google Classroom Application		
Poor	16	13.9
Fairly Good	73	63.5
Very Good	26	22.6
Perceived Ease of Use of the Google Classroom Application		
Poor	3	2.6
Fairly Good	94	81.7
Very Good	18	15.7

of the Google Classroom application, most of the respondents had a fairly good perception as well, as many as 94 respondents with a percentage of 81.7%. These results indicate that the level of knowledge, perceived usefulness and perceived ease of use of the Google Classroom application that most teachers had was still not optimal.

Frequency Distribution of Duration of Work

The duration of work is related to the length of time used by workers to work in a day. Based on Table 3, it was found that most of the respondents had a work duration of 2 hours, as many as 65 respondents with a percentage of 56.5%, but there were also quite a lot of respondents who had a work duration of 3-4 hours with a percentage of 34.8%. These results indicate that the average duration of work of teachers during online learning was 2.4 hours in a day.

Frequency Distribution of Job Stress

Job stress is a depressed condition felt by workers accompanied by the appearance of physical symptoms, behavioral symptoms and psychological symptoms. Table 4 explains that most of the respondents experienced work stress with a percentage of 52.2%, as many as 60 respondents. The work stress felt by most of the respondents in the mild stress category was 27.8%. Work stress of

Table 3. Distribution of Duration of Work on Public High School Teachers in Nganjuk District in 2021

Duration of Work	Frequency (n)	Percentage (%)
≤ 2 hours	65	56.5
3-4 hours	40	34.8
> 4 hours	10	8.7
Total	**115**	**100.0**

Table 4 Distribution of Job Stress on Public High School Teachers in Nganjuk District in 2021

Job Stress	Frequency (n)	Percentage (%)
Normal	55	47.8
Mild	32	27.8
Moderate	25	21.7
Severe	3	2.6
Total	**115**	**100.0**

teachers needs to be addressed immediately so that it does not have a negative impact on the quality of learning.

Correlation between the Understanding of the Google Classroom Application and Job Stress

The result of the research in Table 5 show that teachers who had a moderate level of knowledge related to the Google Classroom application experienced mild work stress with a percentage of 27% or as many as 31 respondents. The test conducted showed that that the p value was <0.0001 with the correlation coefficient= -0.601, so it can be concluded that there was a significant relationship between the knowledge of the Google Classroom application and job stress with a strong and negative relationship.

Based on Table 5, it can also be seen that teachers who had a perception of the usefulness of the Google Classroom application in the fairly good category experienced mild work stress with a percentage 18.3% or as many as 21 respondents.

The test conducted showed that that the p value was <0.0001 with correlation coefficient= -0.533. This shows that there was a significant relationship between the perception of the usefulness of the Google Classroom application and job stress with a strong and negative relationship.

In addition, teachers who experienced mild stress mostly had a fairly good perception of the ease of the Google Classroom application with a percentage of 21.7% or as many as 25 respondents. The results of the Spearman's Rho correlation test showed that the p value was <0.0001 with correlation coefficient= -0.379. This shows that there was a significant relationship between the perception of the ease of the Google Classroom application and job stress with a strong and negative relationship.

Correlation Between Duration of Work and Job Stress

The results of the bivariate analysis between the variables of work duration and job stress in Table 6 show that teachers who had work duration of 2

Table 5. The Correlation Between the Understanding of the Google Classroom Application and Job Stress on Public High School Teachers in Nganjuk District in 2021

Understanding of the Google Classroom Application	Job Stress								Total		Correlation Coefficient	p-value
	Normal		Mild		Moderate		Severe					
	n	%	n	%	n	%	n	%	N	%		
Knowledge of the Google Classroom Application												
Less	0	0	0	0	6	5.2	1	0.9	7	6.1	-0.601	<0.0001
Moderate	29	25.2	31	27	18	15.7	2	1.7	80	69.6		
High	26	22.6	1	0.9	1	0.9	0	0	28	24.3		
Perceived Usefulness of the Google Classroom Application												
Poor	1	0.9	4	3.5	10	8.7	1	0.9	16	13.9	-0.533	<0.0001
Fairly Good	36	31.3	21	18.3	15	13	1	0.9	73	63.5		
Very Good	18	15.7	7	6.1	0	0	1	0.9	26	22.6		
Perceived Ease of Use of the Google Classroom Application												
Poor	0	0	1	0.9	2	1.7	0	0	3	2.6	-0.379	<0.0001
Fairly Good	44	38.3	25	21.7	23	20	2	1.7	94	81.7		
Very Good	11	9.6	6	5.2	0	0	1	0.9	18	15.7		

Table 6. The Correlation Between Duration of Work and Job Stress on Public High School Teachers in Nganjuk District in 2021

Duration of Work	Job Stress								Total		Correlation Coefficient	p-value
	Normal		Mild		Moderate		Severe					
	n	%	n	%	n	%	n	%	N	%		
≤2 hours	34	29.6	21	18.3	9	7.8	1	0.9	65	56.5		
3-4 hours	17	14.8	9	7.8	13	11.3	1	0.9	40	34.8	**0.218**	**0.019**
>4 hours	4	3.5	2	1.7	3	2.6	1	0.9	10	8.7		

hours a day experienced mild work stress with a percentage of 18.3% or as many as 21 respondents. The test conducted showed that that the p value was 0.019 with value correlation coefficient= 0.218, so it can be concluded that there was a significant relationship between work duration and job stress with a very weak and positive relationship.

DISCUSSION

Understanding of Google Classroom Application

Knowledge of Google Classroom application is related to information about the Google Classroom application which includes the benefits, how to use it and the advantages and disadvantages of the application. The results of research conducted on state high school teachers in Nganjuk District showed that most of the respondents had a moderate level of knowledge of the Google Classroom application. In addition, there were also some respondents who had a low level of knowledge. The lack of knowledge lies mostly in the feature of providing input for student assignments, the synchronous online discussion method, the grading system, and the chat feature in the Google Classroom. Before the pandemic, teachers had never used the Google Classroom application because the facilities available at the school only supported the face-to-face learning process. The limitations of these technological facilities and infrastructure have an impact on the low level of teachers' knowledge related to the Google Classroom application (Kurniawan, Purnomo and Idris, 2020). In addition, training related to the use of Google Classroom application held in several schools was only attended by some teachers, so the increase in knowledge was not evenly distributed among all teachers. According to Kurniawan, Purnomo and Idris (2020), training in the form of providing material and direct practice can make it easier for teachers to understand the Google Classroom application.

The results of research conducted on state high school teachers in Nganjuk District showed that most of the respondents had a fairly good perception of the usefulness of the Google Classroom application, but there were some respondents who had a poor perception of the usefulness of the Google Classroom application. The majority of public high school teachers in Nganjuk District were new to the Google Classroom application during the Covid-19

pandemic, so they were still not familiar with all the features contained in the Google Classroom application deeply. According to Wijaya (2016), the benefits of the Google Classroom application can be felt by users to the maximum when they are accustomed to using the application to complete their work.

The perceived ease of use of the Google Classroom application is related to the level of users' confidence that the Google Classroom application can be used to complete work easily without obstacles. The results of research conducted on state high school teachers in Nganjuk District showed that most of the respondents had a fairly good perception of the ease of use of the Google Classroom application. However, there were some respondents who had a bad perception of the ease of use of the Google Classroom application. The perception of ease is lacking because some teachers feel that the Google Classroom application cannot be used as desired, and it is not easy to be proficient in using the Google Classroom application. According to Chandra and Adriansyah (2017), the plurality of new technologies used in the work environment makes workers to need time to adapt, so it is not easy for them to master the technology.

Duration of Work

The duration of work is the length of time used by workers in using technology to complete their work from home (WFH) (Purwanto *et al.*, 2020). According to Maulina and Syafitri (2019), extending working time beyond the ability of workers can cause a decrease in productivity and a tendency to experience work fatigue. The results of research conducted on state high school teachers in Nganjuk District showed that most of the respondents had work duration of 2 hours, but there were also quite a number of respondents who had work duration of between 3-4 hours. According to Purwanto (2020), teachers' working hours during work from home are more flexible, but teachers are required to be fully responsible for their duties and work as educators. Therefore, the average duration of work of teachers during distance learning during the Covid-19 pandemic was lower than the duration of work during normal learning, which was 2.4 hours.

Job Stress

Job stress is a feeling of depression experienced by workers as a result of an imbalance between individuals and the demands of work and their

environment, so it has an impact on the behavior, and physical and psychological conditions of workers (Cahyono, 2019). Stress experienced by workers can have a detrimental impact that affects worker performance. According to Dewi, Bagia and Susila (2018), stressed workers tend to behave strangely, such as being aloof and grumpy so that their work performance is not achieved optimally. The results of research conducted on state high school teachers in Nganjuk District showed that most of the respondents experienced mild stress, but there were some respondents who experienced severe stress. The most stressful symptoms felt by respondents were being difficult to relax, impatient, difficult to rest, unable to tolerate disturbances, and unable to understand everything.

During online learning, the work of teachers is not monotonous because teachers can work while doing other household activities, so that the level of job stress can be minimized (Purwanto, 2020). However, stress conditions that are not immediately treated can worsen and become moderate stress or even severe stress. According to Fajrillah and Nurfitriani (2016), stress conditions that are not immediately resolved can cause burnout, namely a condition of mental, emotional and physical exhaustion that continues so that it can cause health problems. Job stress on teachers, if not handled immediately, can also have a negative impact that affects the learning process. The results of previous research by Lauda, Brahmasari and Kusmaningtyas (2018) showed that job stress on teachers can cause a decrease in teacher performance and competence so that the quality of learning decreases.

Correlation between the Understanding of the Google Classroom Application and Job Stress

The results of the Spearman's' Rho correlation test showed that the knowledge of the Google Classroom application had a significant relationship with job stress with the direction of the negative relationship among public high school teachers in Nganjuk District during the Covid-19 pandemic. This means that the higher the level of knowledge of the Google Classroom application, the lower the job stress level. The results of this study are in line with the research results of Wibowo (2020), which stated that low level of knowledge of learning technology could increase the workload and job stress on lecturers. The results of another study by Sari (2017) stated that there was a significant

relationship between teacher knowledge and teacher performance. The lack of knowledge of the Google Classroom application causes teachers to be unable to utilize the application optimally in the learning process.

Based on information obtained from public high school teachers in Nganjuk District, it was found that most respondents in using the Google Classroom application only utilized certain features that they have already understood, such as for making classes, making announcements and uploading materials and assignments. According to Setyadi, Taruk and Pakpahan (2019), the lack of ability to information technology is the factor that causes the greatest stress on workers. On the other hand, skills and abilities of good learning technology will increase the value and quality of learning so that student satisfaction with teacher performance can increase (Baber, 2021).

One way to increase teacher knowledge can be done through training related to the use of the Google Classroom application, especially with regard to the features of providing input on student assignments, online discussions, the grading system, and the chat feature in the Google Classroom application. The results of the study by Syahroni, Dianastiti and Firmadani (2020) showed that information technology-based learning media training is able to improve the abilities and skills of teachers in using learning applications.

The results of the Spearman's Rho correlation test showed that the perception of the usefulness of the Google Classroom application had a significant relationship with job stress with the direction of the negative relationship among public high school teachers in Nganjuk District during the Covid-19 pandemic. This means that the higher the perception of the usefulness of the Google Classroom application, the lower the job stress felt by teachers. The results of this study are in line with the results of research by Effiyanti and Sagala (2016), which stated that there was a negative and significant influence between perceptions of the usefulness of technology with workload and stress on teachers. In addition, it is also stated that the lower the teachers' perception of the usefulness of technology, the higher the workload and the level of job stress.

Teachers who have a good perception of the benefits of the Google Classroom application will try to find out more about the Google Classroom application. The good perception of usefulness of the Google Classroom application can improve teachers'

skills in using the application because of the teacher's interest in learning. Increasing the ability of teachers to keep up with technological developments can also prevent job stress (Ratna, 2018). In addition, the ease and usefulness of information technology will encourage the behavior of its users to continue to maintain the use of technology in their work. The results of online interviews with public high school teachers in Nganjuk District revealed that during the Covid-19 pandemic, most teachers used the Google Classroom application by combining it with other applications because the benefits of the Google Classroom application felt by teachers were not maximized. The perceived lack of usefulness causes teachers to feel that they need other applications that can support their performance, but this increases the teachers' workload because they have to learn more than one application.

The results of the Spearman's Rho correlation test between the variables of perceived ease of use of the Google Classroom application and job stress indicated that the perceived ease of use of the Google Classroom application had a significant relation with job stress with the negative direction of the relationship on public high school teachers in Nganjuk District during the Covid-19 pandemic. This means that the higher the perception of the ease of use of the Google Classroom application, the lower the job stress on teachers. The results of this study are in line with the results of research by Effiyanti and Sagala (2016), which stated that there was a negative and significant influence between perceptions of the ease of use of technology with workload and stress on teachers.

The majority of public high school teachers in Nganjuk District felt that the Google Classroom application is easier to use than other online learning applications. According to Baber (2021), the perceived ease of use of learning technology will increase teachers' intention to use the technology. However, teachers still find it difficult to maximize the use of the Google classroom application due to a lack of understanding of all features contained in the Google Classroom application. In addition, limited facilities and infrastructure to support online learning can also increase stress on teachers due to an imbalance between job demands and social support (Weken, Mongan and Kekenusa, 2020). Therefore, fulfilling the need for stable internet connectivity is needed so that the learning process can run smoothly and job stress on teachers can be minimized.

Correlation Between Duration of Work and Job Stress

The results of the relationship test using the Spearman's Rho correlation test showed that the duration of work had a significant relationship with job stress with the direction of the positive relationship among public high school teachers in Nganjuk District during the Covid-19 pandemic. This means that the higher the duration of the work of teachers, the higher their job stress. The results of this study are in line with the results of research by Klapproth *et al*. (2020) which stated that teachers with more working time online a day experienced higher job stress than teachers with low working hours.

The work of public high school teachers in Nganjuk District during distance learning (online) is not only limited to uploading materials, giving assignments and evaluating student work results, but teachers often have to contact students and their parents when there are students who are difficult to contact and do not collect assignments on time. Excessive working time can cause suboptimal productivity, decreased concentration and work results, a tendency to experience fatigue, health problems and even work accidents (Rosdiana, 2019). Teachers with high work duration will easily experience fatigue and decreased concentration in carrying out distance learning, so they experience stress easily. In addition, the duration of excessive use of technology such as computers is also a factor that affects job stress on teachers. According to Putri and Mulyono (2017), a person who works using a computer for a long time and at a distance that is too close is is at risk of eye fatigue. The fatigue felt by workers has an impact on decreasing concentration, so they experience stress easily.

Job stress on teachers can be minimized by doing stress management. According to Mentari, Liana and Pristya (2020), stress management techniques can be carried out in three ways, namely focusing on solving problems, diverting stress and finding solutions to problems through group discussions. Stress that arises due to excessive work duration can be diverted through positive activities favored by teachers, such as stretching, exercising and other household activities. In addition, teachers can apply the 20-20-20 technique rule to prevent job stress due to the excessive duration of computer or laptop use.

CONCLUSION

Based on the results of the research, on the variable of the understanding of the Google Classroom application, it was found that most respondents had a moderate level of knowledge of the Google Classroom application, and most respondents had a fairly good perception of the usefulness and the ease of use of the Google Classroom application. Most respondents had a work duration of ≤ 2 hours, but there were also respondents who had work duration of > 4 hours. The highest level of job stress was in the mild stress category, but there were some respondents who experienced severe stress. Thus, it can be concluded that the understanding of the Google Classroom application (knowledge of the Google Classroom application, the perception of the usefulness of the Google Classroom application and the perception of the ease of use of the Google Classroom application) and the duration of work had a significant relationship with job stress among public high school teachers in Nganjuk District during the Covid-19 pandemic. As suggestions, schools are expected to provide training related to the use of the Google Classroom and stress management, provide a stable internet connection, and form a special team to assist teachers in overcoming obstacles in the implementation of online learning. For teachers, it is hoped that they can actively participate in various training activities at school and communicate with the school and other teachers regarding the obstacles experienced during online learning.

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