

**DETECTION OF STRESS SYMPTOMS OF PSYCHOSOCIAL STAGE
ON HIGH SCHOOL TEACHERS IN DKI JAKARTA:
THE IMPACT OF THE IMPLEMENTATION OF FULL ONLINE LEARNING
(Case study: At the Early Period of Covid-19 Pandemic)**

Seto Mulyadi,¹ Budi Prijanto², Agustin Rusiana Sari³, Didin Mukodim⁴

¹Universitas Gunadarma, Jalan Margonda Raya No 100, Depok, setomulyadi@staff.gunadarma.ac.id

²Universitas Gunadarma, Jalan Margonda Raya No 100, Depok, budi_prijanto@yahoo.com

³Universitas Gunadarma, Jalan Margonda Raya No 100, Depok, agustin@staff.gunadarma.ac.id

⁴Universitas Gunadarma, Jalan Margonda Raya No 100, Depok, didin@staff.gunadarma.ac.id

Abstract

At around December 2019, the new variant of corona virus emerged and known as COVID-19 had triggered an outbreak in China. This epidemic then spread to the various parts of the world. On January 30th 2020, the World Health Organization (WHO) had declared the Outbreak of COVID-19 as the Global Public Health Emergency. The COVID-19 pandemic has greatly affected various aspects of human life including education. Learning practice in class with face to face method has been changed by the government to full online learning system. This change is forcing teachers to adapt their teaching learning activities to be fully compatible with the online learning process. It is not an easy thing.

This research aims to detect the level of psychosocial stress symptoms as released by the Canadian Centre for Occupational Health and Safety (2000) on high school teachers in DKI Jakarta as the result of the implementing of full online learning. Data analysis technique used descriptive statistical analysis. The data were collected through the distribution of questionnaires using a system of 7 Likert scale. There are 873 respondents (high school teachers) and there are 704 eligible questionnaires to be processed. The stages of data processing are as follows: 1. Data tabulation, 2. Classifying data into 4 class intervals, 5. Drawing conclusion.

This research concluded that: the full implementation of online learning has made the high school teachers in Jakarta feel some symptoms of psychosocial stress such as the emergence of high sense of anxiety, feeling low self-restraint and assuming that work is getting harder. However, those conditions that have been mentioned did not affect the teachers to be irritable. Their moods were maintained. They were not easily offended, not apathetic. Their depression levels were low, their thinking responses were still well maintained and they still felt empowered.

I. INTRODUCTION

In the dictionary of psychology, stress is a state of depression both physically and psychologically (Chaplin, 2011). Baron & Greenberg (1990:226) defines stress as an emotional and psychological reaction that occurs in situations where the individual's goals are blocked and cannot be overcome.

The relation with the employees in an organization/company is known as work stress. Gibson et al (1995:203-204) explains that work stress is conceptualized from several points of view, namely stress as a stimulus, stress as a response and stress as stimulus-response. Stress as a stimulus is an approach that focuses on the environment. The definition of stimulus views stress as force that pressures individual to respond to the cause of stress. This approach views stress as a consequence of the interaction between environmental stimulus and individual responses.

WHO uses the term Work related stress. This term is identified into 3 conditions, namely: 1. Work-related stress is the response that people may have when they are faced with the job demands and pressures which do not match with their knowledge and abilities, and that challenge their ability to cope. 2. Stress occurs in a variety of work situations but is often made worse when the employees feel that they have little support from the supervisors and colleagues, and a little control over work processes. 3. There is often a confusion between pressure or challenge, and stress, it is sometimes used as an excuse for poor management practices. Employees in all professions will definitely be at risk of being exposed to stress, including teachers. Pressures in the work place are unavoidable due to the demands of the contemporary work environment.

Recently, starting around December 2019, a new variant of corona virus emerged and known as COVID-19 had triggered an outbreak in China, then spread to the various parts of the world. On January 30, 2020 the World Health Organization (WHO) had declared the outbreak of COVID-19 as a Global Public Health Emergency. Coronavirus is a type of virus that causes illness ranging from mild to severe symptoms.

The COVID-19 pandemic has greatly affected various aspects of human life. These aspects include economic, education, social, and psychological aspects of society. In order to prevent the spread of the virus transmission from one individual to another the work activities must shift from Work-From Office (WFO) to Work-From Home (WFH). The immediate implication faced in the world of education is the changing teaching learning activities from face to face activities in the classroom to Study/School-From-Home (SFH). This momentum appears along with other aspect namely the rapid development in the field of information technology.

The phenomenon of applying Study/School-From-Home (SFH) by using information technology such as virtual class method and video conference utilizing online platforms as the result of COVID-19 pandemic and its impacts, is interesting to research. The implementation of learning system using a full online media has the implication for both teachers and students that they must be able to adapt well. If they are not be able, it is very possible that the learning outcome cannot be achieved.

In fact, there are a lot of teachers experience obstacles in the implementation of the teaching learning process with a full online system. One of the causes is the relatively weak mastery of information technology and the unfamiliarity with the used of various online learning platforms. So it is suspected that this can cause stress. This phenomenon then becomes the background of this research. Therefore this research paper aims **to detect the level of psychosocial stress in high school teachers in DKI Jakarta due to the implementation of full online learning with the case studies in the early period of COVID-19 pandemic.**

II. THEORETICAL REVIEW

As a basis for the discussion which is in accordance with the theme of this research, the theoretical review is structured as follows: 1. *Workload*, this needs to be stated at the beginning because it is the main premise in this research, 2. E-Learning and Online learning, and 3. Stress and Stress Symptoms.

2.1 *Workload*

This sub-chapter is the main premise of this research. With the COVID-19 pandemic, the implementation of learning at all levels of education has been changed from a face-to-face system to a fully online system, so this can be considered as a change in learning patterns and causes an increase in *workload*.

According to Dhania (2010) workload is a number of activities that require expertise and must be done within a certain period of time in physical or psychological form. Riggio (2000) states that workloads are work tasks which become a source of stress, such as work that needs to be done quickly, producing something, and concentrating.

2.2. E-Learning and Online Learning

E-learning is an abbreviation of *electronic learning* which means a learning process using electronic media, especially the internet as a learning system. According to Bullen & Janes (2007), e-learning is a learning activity that occurs when the internet technology is used to facilitate, deliver, and enable long-distance learning processes.

E-learning according to Zhang & Zhu (2017) is an online learning that is convenient to be used in terms of models and the novelty of its form based on the latest technology, which has a positive impact on modern learning, so that any form of media and learning equipment can support e-learning activities, including the use of multimedia in e-learning study. E-learning can have an impact or influence on learning outcomes (Yeh and Hsin, 2014).

2.3. Stress and Stress Symptoms

Robbins & Judge (2016) state that stress is an unpleasant psychological process that occurs in response to environmental pressures. Hamali (2016) suggests work stress as an individual's reaction to threatening factors in one's workplace. The new environment can usually lead to situations that put pressure on employees. This pressure will have an impact on employees' emotional, behavioral, and physiological changes

Another definition of stress is, according to Klarreich (1996), stress means, ambiguous physical and psychological reactions shown to actions that are perceived as a sign of danger and a warning to someone's well-being and tranquility.

According to Wibowo (2011), stress that occurs in the workplace causes the organization to bear the burden: low quality of service, high staff turnover, bad company reputation, bad company image, and worker dissatisfaction. Luthans (2008) says that sources of work stress

include sources of stress outside the organization, sources of stress from the organization, sources of group stress, and sources of individual stress. Kofoworola and Ajibua (2012) mention some of the causes of stress in the workplace are life changes, hassles, career development, and workload. Other causes of work stress are workloads that feel very heavy, less working time, and so on (Mangkunegara, 2008).

According to Robbins (2007) as well as Rakshit dan Sharma (2016), the impact of work stress can be grouped into 3 categories, namely physiological symptoms, psychological symptoms, and behavioral symptoms. The following table shows these symptoms:

Table 1. Physical, Psychosocial, and Behavioral Symptoms of Employees Due to Stress

Physical	Psychosocial	Behavioural
- Headaches	- Anxiety	- Overeating or loss of appetite
- Grinding teeth	- Irritability	- Impatience
- Clenched jaws	- Sadness	- Quickness to argue
- Chest pain	- Defensiveness	- Procrastination
- Shortness of breath	- Anger	- Increased use of alcohol / drugs
- Pounding heart	- Mood swings	- Increased smoking
- High blood pressure	- Hypersensitivity	- Withdrawal or isolation from others
- Muscle aches	- Apathy	- Neglect of responsibility
- Indigestion	- Depression	- Poor job performance
- Constipation or diarrhea	- Slowed thinking or racing thoughts	- Poor personal hygiene
- Increased perspiration	- Feelings of helplessness, hopelessness, or of being trapped	- Change in religious practices
- Fatigue		- Changes in close family relationships
- Insomnia		
- Frequent illness		

Workplace Stress

2.4. The Effect of Work Load on Work Stress

The causes of work stress can be categorized into environmental causes, organizational causes, and individual causes. Work stress can occur due to too many tasks, limited time to do the work, role ambiguity, differences in values within the company, frustration, and family environment. If these factors cannot be controlled, they will affect work performance (Pujiastuti, 2013). Kumar (2011) finds that workload and management style are key factors that affect feelings and create stress among employees. Kawasaki, K., Sekimoto, M., Ishizaki, T., & Imanaka, Y. (2009) state an investigation conducted by the American Society of Anesthesiologists in 1991 showed that stress is caused by heavy workloads. Al-Mohannadi and Capel (2007) say that workload also causes significant stress for elementary school teachers compared to preschool and middle school teachers. Workload and deadlines are the two factors that most often cause stress (Bradley and Cartwright, 2002). The factors of stress are specifically directly related to how much the employee's workload is (Peters, 2013).

Based on some of these studies, it can be concluded that heavy work load experienced by employees can cause work stress.

III. RESEARCH METHOD

Research method is a procedure or steps in obtaining scientific knowledge or, in other words, research method is a systematic way to organize knowledge (Suryana, 2010). To support the achievement of new insights in this research, the research method is structured as follows:

3.1. Type of research

This research is a quantitative type of research. The quantitative research method is based on the philosophy of positivism and is used to examine certain populations or samples with the sampling techniques generally carried out randomly, using certain research instruments for the data collection, and with a quantitative/statistical data analysis aiming to test the established hypothesis. (Sugiyono, 2006:14).

3.2. Population, Research Sample, and Sampling Technique

Population is a generalization area which consists of objects/subjects with certain quantities and characteristics determined by the researcher to be studied further and draw conclusions afterwards (Sugiyono, 1997:57). Meanwhile, a sample is a subset of a population which provides a true representation of the population. (Gulo, 2010:78).

In this research, the population is a group of high school teachers who teach at schools in Jakarta Capital Special Region area with a total of 11,134 people (Kemendikbud, Secretary General of the Center for Data and Information Technology, 2020). The determination of the number of samples was carried out based on Slovin's formula, considering that this formula is appropriate for research where the total population is known. Based on Slovin's formula and by using an error rate of 15% (with Confidence level of 85%), the minimum sample size obtained was 470.

The data of this research which can be processed and are obtained from respondents amounted to 703. This amount exceeds the minimum sample limit that has been determined. Meanwhile, the sampling technique used in this research was purposive sampling technique, which is one of the non-random sampling techniques where the researcher determines the sampling by determining certain/ specific characteristics of the sample that are in accordance with the research objectives so that they are expected to answer the research problems.

3.3. Data Collection Method and Source of the Data

In order to obtain objective and scientifically justifiable data, a data collection method which can reveal data in accordance with the subject matter is needed. Suharsimi Arikunto (2002: 127), explains that the types of methods and instruments of data collection are like talking about evaluation.

Evaluating is obtaining data about the status of something compared to a predetermined standard or measure. From this understanding, the types of research methods and research tools are all, or at least almost all of them, the same. Broadly speaking, the evaluation tools used can be classified into two types, namely test and non-test tools. In this research, the method used was a test.

According to Suharsimi Arikunto (2002: 127), a test is a series of questions used to measure something, which in this research was used to measure the stress level of high school teachers.

The source of the data used is primary data, namely the data obtained from the source directly by using a questionnaire instrument, which has passed the validity and reliability test stage. The questionnaires were distributed in the time span between April and June 2020. The preparation of the questionnaire used a Likert scale method with a scale of 1 – 7, starting from 1 (the smallest value) for respondents who considered each statement item having low value, and 7 (the largest value) for respondents who considered each statement item having high value.

The preparation of the questionnaire material used as the research instrument was based on empirical studies of several previous researches. The determination of indicators in this research questionnaire is a modification (addition, subtraction and adjustment) of several studies of stress symptoms at the psychosocial symptom stage, which include: anxiety, irritability, self-restraint, moody, being easily offended, apathy, depression, quick thinking response, helplessness, and assumptions about the severity of teaching work using a full online system.

3.4. Analysis Technique

In this research, the technique that will be used is descriptive statistical technique. Descriptive statistics are statistics which are used to analyze data by describing the data that have been collected as they are, without intending to make conclusions that are applied to the general public or generalizations (Sugiyono: 2015). The presentation of data for analysis purposes is carried out in various forms, such as tables, graphics, and the like.

The steps taken to perform data analysis are:

- a. Making data tabulation, data from the collected questionnaires are tabulated by giving a value of 1 -7
- b. Making 4 interval scales. The steps taken are: 1) determining the number of intervals; 2) determining the width of the interval; 3) determining the criteria for the average value based on the classes and intervals that have been determined in step 1 and 2.
- c. Determining the total of intervals, the total of intervals determined here was 4, namely: Very Low Stress, Low Stress, High Stress, and Very High Stress)
- d. Determining the width of the interval with the following formula (Santosa and Hamdani, 2007):

$$i = \frac{\text{Measuring distance}}{\text{determined total of intervals}}$$

- e. Based on the total and width of predetermined intervals, the average categories of research indicators can be arranged as follows:

1.00 – 2.50 = Very Low Stress

>2.50 – 4.00 = Low Stress

>4.00 – 5.50 =High Stress

>5.50 – 7.00 = Very High Stress

- f. Determining and analyzing stress levels, after obtaining a score for the stress category, the next step was to determine each answer item statement into the indicator, so that the general stress level of respondents can be known.

IV DISCUSSION

This section contains the discussion of the research. The first section discussed about the demographics of the respondents, continued with a discussion about the stress level of high school teachers in Jakarta Capital Special Region area due to the full implementation of online learning, with the case study: the condition at the beginning of the Covid-19 pandemic.

4.1. Respondent Demographics

The following is the demographics of the respondents, respectively, based on gender, school area of origin, school origin (State or Private), age, length of /teaching experience, and respondent's functional position.

a. Based on gender

Table 2. Respondents by Gender

Sex	Total	%
Female	443	63
Male	260	37

Based on the data acquired, the composition of respondents was 443 females or 63%, while the rest 260 or 37% respondents are males. It can be concluded that the respondents are dominated by women.

b. Based on School Area

Table 3. Respondents by School Area

School Origin	Total	%
Central Jakarta	198	28
South Jakarta	135	19
West Jakarta	104	15
North Jakarta	81	12
East Jakarta	173	25

Thousand Islands	12	2
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From the data, it was found that the largest number of respondents was from Central Jakarta, which are 198 people or about 28%, while the least respondents came from the Thousand Islands area, namely 12 people or around 2%.

c. Based on School Origin (State or Private)

Table 4. Respondents by School Origin (State or Private)

State/ Private	Total	%
State	398	57
Private	305	43

From the data, respondents from private schools were 305 or about 43%, while those from public schools were 398 respondents or about 57%. In this case, respondents from public schools were more dominant, but the difference of respondents between the state and private schools did not differ significantly.

d. Based on Age

Table 5. Respondents by Age

Age	Total	%
20 - 25	62	9
26 - 30	106	15
31 - 35	61	9
36 - 40	83	12
41 - 45	114	16
46 - 50	95	14
51 - 55	115	16
> 55	67	10

Based on the data, it can be seen that the age of the dominant respondents is between 41-55 years, totaling 292 (42%), with the following details: aged between 51-55 years totaling 115 respondents (16%), almost the same as respondents aged 41 – 45 years, totaling 114 respondents (14%), and respondents aged between 46 – 50 years totaling 95 respondents (14%). While the least are respondents aged between 20-25 years, amounting to 62 or only about 9%.

e. Based on Length of Teaching Experience

Table 6. Respondents by the Length of Teaching Experience

Teaching Experience	Total	%
1 - 5	214	30
6 - 10	84	12
11 -15	97	14
16 - 20	129	18
21 - 25	74	11
26 - 30	59	8
> 30	46	7

From the data, it can be seen that the most respondents are those with 1-5 years of teaching experience, namely 214 respondents or approximately 30%, while the least are respondents who have teaching experience above 30 years, which is 46 or about 7%.

f. Based on Functional Position

Table 7. Respondents by Functional Position

Fuctional Position	Total	%
Young teachers	192	27
Junior teachers	192	27
Middle teacher	158	22
Senior Teachers	161	23

From the data, respondents' functional positions are almost evenly distributed between young teachers, junior teachers, middle teachers, and senior teachers. It can be seen that the least are Guru Madya (Middle Teachers), namely 158 respondents, while the most are Guru Pertama (First teachers) and Guru Muda (Junior Teachers), which are 192 respondents. The percentage is ranging from 22 % – 27%.

4.2 Cross Tabulation of Respondents

Cross-tabulation analysis or Crosstabs is used to calculate the frequency and percentage of two or more variables simultaneously by crossing the related variables so that the meaning of the relationship between two variables is easy to understand descriptively. (Santoso S. & Tjiptono F, 2001).

Cross-tabulation will be carried out based on school origin variables (State or Private) correlated with gender, age, length of teaching experience, and functional position. The following shows the cross-tabulation in question.

Table 8. Cross Tabulation of Respondents by Type of School

	Type of Schools
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Criteria		State		Private	
		Total	%	Total	%
Gender	Female	255	64	188	62
	Male	143	36	117	38
Age	20-25 years	29	7	33	11
	26-30 years	46	12	60	20
	31-35 years	22	6	39	13
	36-40 years	34	9	49	16
	41-45 years	60	15	54	18
	46-50 years	62	16	33	11
	51-55 years	87	22	28	9
	>55 years	58	15	9	3
Length of Teaching Experience	1-5 years	84	21	130	43
	6-10 years	26	7	58	19
	11-15 years	46	12	51	17
	16-20 years	86	22	43	14
	21-25 years	63	16	11	4
	26-30 years	52	13	7	2
	>30 years	41	10	5	2
Fungsional Positions	Guru Pertama (First Teacher)	120	30	72	24
	Guru Muda (Senior Teacher)	118	30	74	24
	Guru Madya (middle teacher)	98	25	60	20
	Guru Utama (Main Teacher)	62	16	99	32

4.3. The Stress Level of High School Teachers in DKI Jakarta

In this study, the stress level is measured by the stress symptom itself, especially at the psychosocial symptom stage, as described by the Canadian Center for Occupational Health and Safety (2000) which has been presented through the theoretical study.

Furthermore, a descriptive analysis of stress will be presented at the stage of psychosocial symptoms, which include: anxiety, irritability, self-control level, moody, irritability (get easily offended), apathy, depression, thinking response, powerlessness, and the assumption about work feels harder by using a full online system.

a. Anxiety

Based on the data processing that have been done, descriptively, the respondents' anxiety as a result of teaching and learning activities implementation with a full online system can be seen in Table 9.

Table 9. Anxiety

Stress Level	Anxiety	
	Total	%
Very Low	124	18
Low	256	36
High	149	21
Very High	174	25

The average score on the respondents' anxiety item is 4.3, This score is in the interval range: "high anxiety".

b. Irritability

Based on the data processing that have been done, descriptively, the respondents' irritability as a result of teaching and learning activities implementation with a full online system can be seen in Table 10.

Table 10. Irritability

Stress Level	Irritability	
	Total	%
Very Low	277	39
Low	280	40
High	95	14
Very High	51	7

The average score on the respondents' irritability item is 3.2, This score is in the interval range: "the respondents' irritability is in low category".

c. Self-control Level

Based on the data processing that have been done, item descriptively, the respondents' self-control as a result of teaching and learning activities implementation with a full online system can be seen in Table 11.

Table 11. Self-control

Stress Level	Self-control	
	Total	%
Very Low	274	39
Low	367	52
High	49	7
Very High	13	2

The average score on the respondents' self-control item is 2.9, this score is in the interval range: "the respondents' self-control is in low category".

d. Moody

Based on the data processing that have been done, item descriptively, the respondents' moody as a result of teaching and learning activities implementation with a full online system can be seen in Table 12.

Table 12. Moody

Stress Level	Moody	
	Total	%
Very Low	287	41
Low	341	49
High	58	8
Very High	17	2

Moody, is a term that comes from the word 'mood', which means 'the state of mind or feeling'. Linguistically, moody can be explained as a trait or condition when a person experiences the fluctuating or irregular mood changes. The moment when the score goes higher on the moody trait then it refers to a worse condition. The average score on the respondents' moody item is 2.9, this score explains that the moody level is low which means the mood change does not fluctuate.

e. Irritability (Get Easily Offended)

Based on the data processing that have been done, item descriptively, the respondents' irritability (get easily offended) as a result of teaching and learning activities implementation with a full online system can be seen in Table 13.

Table 13. Irritability (Get Easily Offended)

Stress Level	Irritability	
	Total	%
Very Low	142	20
Low	322	46

High	140	20
Very High	99	14

The average score on the respondents' irritability item is 3.9, this score is in the interval range: "low is very close to high".

f. Apathy

Based on the data processing that have been done, item descriptively, the respondents' apathy as a result of teaching and learning activities implementation with a full online system can be seen in Table 14.

Table 14. Apathy

Stress Level	Apathy	
	Total	%
Very Low	243	35
Low	301	43
High	85	12
Very High	74	11

The average score on the respondents' apathy item is 3.4, This score is in the interval range: "low apathy".

g. Depression

Based on the data processing that have been done, item descriptively, the respondents' depression as a result of teaching and learning activities implementation with a full online system can be seen in Table 15.

Table 15. Depression

Stress Level	Depression	
	Total	%
Very Low	284	40
Low	256	36
High	92	13
Very High	71	10

The average score on the respondents' depression item is 3.2, This score is in the interval range: "low depression".

h. Thinking Response

Based on the data processing that have been done, item descriptively, the response speed of respondents' thinking as a result of teaching and learning activities implementation with a full online system can be seen in Table 16.

Tabel 16. Thinking Response Speed

Stress Level	Thinking Response Speed	
	Total	%
Very Fast	286	41
Fast	366	52
Slow	49	7
Very Slow	2	0

The average score on the respondents' thinking response speed item is 2.8, This score is in the interval range: "fast thinking response speed".

i. Powerlessness

Based on the data processing that have been done, item descriptively, the respondents' powerlessness as a result of teaching and learning activities implementation with a full online system can be seen in Table 17.

Tabel 17. Powerlessness

Stress Level	Powerlessness	
	Total	%
Very Powerful	257	37
Powerful	277	39
Powerless	108	15
Very Powerless	61	9

The average score on the respondents' powerlessness item is 3.3, This score indicates that respondents are still in the level of "powerful".

j. Work Feels Harder

Based on the data processing that have been done, item descriptively, the work feels harder as a result of teaching and learning activities implementation with a full online system can be seen in Table 18.

Tabel 18. Work Feels Harder

Stress Level	Work Feels Harder	
	Total	%
Very Easy	116	17
Easy	331	47
Hard	133	19
Very Hard	123	17

The average score on the work feels harder item is 4.1, This score indicates that respondents “feel their work is getting harder”.

V. CONCLUSION

The conclusion that can be drawn after the discussion as in the previous sub-chapter is that the full implementation of online learning has made high school teachers in Jakarta feel the symptoms of psychosocial stress, such as high anxiety, low self-control, and assumption that their work becomes harder. However, the conditions mentioned above did not affect the teachers to be irritable, the mood is maintained, they are not easily offended, not apathetic, depression level is low, thinking responses are still well maintained, and still feel powerful.

References

- Al-Mohannadi, A. and Capel, S. (2007). Stress in Pphysical Education Teachers in Qatar. *Social Psychology of Education*, 10 (1), 55-75
- Arikunto, Suharsimi. (2002). *Prosedur Penelitian, Suatu Pendekatan Praktek*. Jakarta: PT Rineka Cipta.
- Baron dan Greenberg. (1990). *Behavior in Organizations*. Boston, MA: Allyn& Bacon (A Division of Simon & Schuster, Inc.)
- Bradley, J, R, dan Cartwright, S. (2002). Social Support, Job Stress, Healthy, and Job Satisfaction Among Nurse in United Kingdom. *International Journal of Stress Management*, Vol. 09, No. 03.
- Bullen, M., & Janes, D. P. (2007). *Making the Transition to E-Learning : Strategies and Issues*. Information Science Pub.
- Chaplin. (2011). *Kamus Lengkap Psikologi (terjemahan Kartini Kartono)*. Jakarta: PT. Raja Grafindo Persada.
- Dhania, D.R. (2010). Pengaruh Stres Kerja, Beban Kerja Terhadap Kepuasan Kerja. *Jurnal Psikologi Universitas Muria Kudus*, Vol. 1, No. 1, 15 – 23.

- Gibson, et al. (1995). *Organisasi dan Manajemen*, Edisi ke empat, Jakarta : Erlangga
- Gulo. (2010). *Metodologi Penelitian*. Jakarta : Grasindo
- Hamali, Arif Yusuf. (2016). *Pemahaman Sumber Daya Manusia*. Yogyakarta: CAPS
- Kawasaki, K., Sekimoto, M., Ishizaki, T., & Imanaka, Y. (2009). Work Stress and Work load of Full-time Anesthesiologists in Acute Care Hospital in Japan. *Journal of Anesthesia*, 23, 235-241.
- Kemendikbud. Sekjen Pusat Data dan Teknologi Informasi. (2020). *Statistik Sekolah Menengah Atas 2019/2020*. Jakarta.
- Klarreich, Samuel H. (1996). *Stressiz Çalışma Ortamı. Öteki Yönetim*. Emel Matbaası. Ankara.
- Kumar, Ranjit. (2011). *Research Methodology A Step-By-Step Guide For Beginners*. Third Edition. London : SAGE Publications Ltd
- Luthans, Fred. (2008). *Organizational Behavior*. New York : McGraw-Hill Companies Inc.
- Mangkunegara, A. P. (2008). *Manajemen Sumber Daya Manusia*. Bandung : Remaja Rosdakarya.
- Peters, R, H. (2013). Self Affirmation Improves Problem-Solving Under Stress. *Public Library of Science*, Vol. 08, No. 05.
- Pujiastuti. (2013). Pengaruh Penghargaan, Stres Kerja, dan Jenis Jam Kerja Terhadap Kinerja Karyawan. *Proceeding Seminar Nasional Danncall For Papers Sancall*, Surakarta, 23 Maret 2013
- Rakshit, M., Sharma, Y. (2016). Occupational Stress and its impact on Physical and Psychological Health of Employees in Private Educational Organizations : Management Strategies. *International Journal of Advanced Research in Education & Technology (IJARET)*, Vol. 3, Issue 3, 96-101
- Riggio, R. E. (2000). *Introduction to Industrial Organizational Psychology*. Third Edition. New Jersey : Printice Hall, Upper Saddle River.
- Robbins, Stephen P. (2007). *Perilaku Organisasi*. Jakarta: PT Indeks
- Robbins, P. Stephen & Judge, Timothy A. (2017). *Organizational Behaviour*. Edisi 13. Jilid 1, Jakarta : Salemba Empat.
- Santoso, S., & Tjiptono, F. (2001). *Riset Pemasaran Konsep dan Aplikasi dengan SPSS*. Jakarta : Elex Media Komputindo

Sugiyono. (2014). *Metode Penelitian Kuantitatif, Kualitatif dan R & D*. Bandung: Alfabeta

Sugiyono. (2015). *Metode Penelitian Kombinasi (Mix Methods)*. Bandung: Alfabeta.

Suryana. (2010). *Metode Penelitian Model Praktis Penelitian Kuantitatif dan Kualitatif*. Bandung : UPI

Wibowo. (2011). *Manajemen Kinerja*. Jakarta: Raja Grafindo Persada.

Yeh, Shang Pao, and Hsin Wei Fu. (2014). Effects of Cooperative E-Learning on Learning Outcomes. *Eurasia Journal of Mathematics, Science and Technology Education* 10, No. 6, 531–36. <https://doi.org/10.12973/eurasia.2014.1212a>.

Zhang, Wei, and Yanchun Zhu. (2017). A New E-Learning Model Based on Elastic Cloud Computing for Distance Education. *Eurasia Journal of Mathematics, Science and Technology Education* 13, No. 12, 8393–8403. <https://doi.org/10.12973/ejmste/80800>