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(IJEPC)**www.ijeipc.com**PREDICTIVE FACTORS OF TEACHER STRESS DURING THE
COVID-19 PANDEMIC**Mohd Fairuz Jafar^{1*}, Norsyazwani Sulaiman², Nadia Ainuddin Dahlan³¹ School of Education, Universiti Utara Malaysia

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This work is licensed under [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)**Abstract:**

The implementation of online teaching and learning activities during the Covid-19 pandemic was a challenging situation for teachers. Some teachers experienced stress that could affect their performance. This study aimed to examine the contributing factors to the stress which was experienced by the teachers. A total of 326 respondents comprising secondary school teachers in one of the northern states of Peninsular Malaysia were selected as a sample of the study. The sampling method used in this study was cluster sampling and random sampling techniques. This study found that workload and competency in information technology were significant contributors to teacher stress at 66.8% of variance. The workload factor is the biggest contributor compared to the competency in ICT factor. The higher the amount of workload experienced by the teachers will lead to an increase their level of stress. The teachers with high competencies in ICT experienced less stress while performing online teaching and learning activities. This study provides a meaningful information to the administrators to improve the teachers' well-being by controlling the amount of workload and improving competency in ICT.

Keywords:

Competency In ICT, Educational Psychology, Stress, Workload

Introduction

Personal well-being is an important psychological aspect of a person's success in performing his or her duties. A healthy mental state is essential to lead to well-being, happiness, as well as the ability of individuals to encounter challenges, accept environmental conditions and have

positive qualities in themselves (Mohamad & Ibrahim, 2018). However, most individuals encounter various challenges such as managing a family, earning a living, getting a suitable job, stable financial resources and ensuring that every need of life is met. Therefore, the desire to meet the necessities of life perfectly may cause stress symptoms. Stress that fails to be managed properly can adversely affect an individual's health such as experiencing emotional stress and ultimately leading to undesired actions. The stress experienced by the individual stems from various conflicts hovering around him that originate from within himself or the environment. The ability of individuals to manage stress well can contribute to the well-being and sustainability of society.

According to the Ministry of Health Annual Report in 2018, a total of 331,052 Malaysians have undergone mental health screening tests at health clinics throughout the country. Mental health tests performed using the Depression Anxiety Stress Scales (DASS) are specialized screening to detect depression, anxiety and stress. A total of 27,611 or 8.3% of the total individuals screened were found to be experiencing stress, 10.2% were experiencing anxiety symptoms and another 6.5% were experiencing depression (Ministry of Health Malaysia, 2018). Thus, new findings on stress in specific situations such as in the employment sector, at work, family relationships and society can provide new information so that matters related to stress symptoms can be managed as best as possible.

The pandemic situation that has plagued the world since November 2019 has affected various sectors including the economic, financial, tourism and education sectors. In the context of education affected by the Covid-19 pandemic, it was found that teachers experienced more significant stress. Besser, Lotem, and Zeigler-Hillet (2020) and Vu, Hoang, Than, Nguyen, Dinh, Le, and Nguyen (2020) revealed that educators such as teachers and lecturers in the university experienced psychological disorders during the Covid-19 pandemic outbreak. Therefore, studies on the level of stress for the sustainability of teachers in Malaysia in conducting teaching and learning activities during the Covid-19 situation should be explored to identify teacher stress contributing factors and relevant solutions can be proposed.

In the education sector, teachers are the most important entity to ensure that students receive the best education for the development of their potential. However, if teachers experience stress, this condition will inevitably lead to disharmonious situations such as depression, frustration and high anxiety. In fact, stress can affect the quality of teaching and learning. Researchers note that stress among teachers may become more serious when teachers are faced with new challenges and situations such as learning in a pandemic environment compared to normal practice. Yahaya, Ramli and Ismail (2010) found that teachers often experience stress when performing teaching tasks. Teachers who experience stress symptoms can cause their work performance and well-being to be disrupted (Ramli & Mirzani, 2010).

Ideally, trained teachers should have the skills to conduct teaching and learning either formally in the classroom or online. The exposure of online teaching and learning activities encouraged by the Ministry of Education is to prepare students who are able to compete with the international community in the new era. This process has been emphasized since before the pandemic situation. Therefore, teachers in Malaysia should have the highest resilience to encounter any challenge as they have been exposed to the use of technology in teaching. Therefore, teachers are certainly able to control stress and face current challenges well as they have been professionally trained in teacher education program.

Past studies have shown that a number of teachers in Malaysia experience stress symptoms in conducting their teaching (Abdullah & Ismail, 2019; Othman & Sivasubramaniam, 2019; Hassan & Kavita, 2018). The National Union of Teaching Profession (NUTP) emphasized that stress among teachers is becoming more alarming due to the increasing workload of teachers. Moreover, 70% of the 9,000 teachers surveyed nationwide experienced stress due to having to deal with workloads, as well as the attitudes of principals, parents, and students in school in addition to conducting their work (Daily News, 2013). The teacher stress is not only due to teaching activities in the classroom, but they are also burdened with clerical tasks such as making records of student attendance in the system, file management and others (Othman & Sivasubramaniam, 2019). In addition, studies in terms of gender found that the number of female and male teachers with stress was higher. The level of emotional stress and depression of women compared to men is in the ratio of 2:1 (Ramli, Yahaya, Yahaya, & Lazin, 2010). Meanwhile, the World Health Organization (WHO) (2017) reported that stress and depression often occur in women (5.1%) and men (3.6%). The consensus among female teachers is 43.9% and male teachers only 40% (Othman & Sivasubramaniam, 2019). According to Yahaya, Ramli and Ismail (2010), there is no difference in teacher stress between male and female teachers. Therefore, the findings of studies on stress among teachers based on gender factors are inconsistent and require further studies to look at the rate of teacher stress in specific situations.

The Covid-19 virus that hit the world starting in November 2019 in Wuhan province, China resulted in a serious worldwide transmission until the WHO declared the Covid-19 as a pandemic (WHO, 2020). In this regard, the Malaysian Government has also declared a Movement Control Order (MCO) since 18 March 2020. The Government took the initiative by implementing online teaching and learning process according to Circular 100 Number 03/2020 (Ministry of Education, 2020). Therefore, skills in using information and communication technology (ICT) for the learning processes are essential to ensure the smooth running of the learning process (Hasnuddin, Norfaizuryana, & Nor Azzarahton, 2015; Khadijah, Tengku Norhayati, Mohd. Isa & Hafizhah, 2014). Rogayah and Mohd Aderi (2016) argued that the use of ICT will create a fun learning environment and can improve the quality of teaching either inside or outside the classroom. However, the implementation of online teaching among teachers in Malaysia is still lacking in discussion (Kabilan & Embi, 2004). In fact, the findings of a study from Koo (2008) showed that time constraints and lack of ICT access cause problems for teachers for online teaching and learning (T&L) process. Based on this situation, we believe that a survey study should be conducted to explore whether ICT competence for online T&L is a contributing factor to teacher stress while conducting online teaching during the pandemic.

Literature Review

There are three points that will be discussed in the literature review namely stress, workload and competency of information and communication technology.

Stress

Lazarus and Opton (2009) stated that stress is a situation or feeling that comes from an experience when an individual considers the demands they receive are too high and cannot be met due to lack of social and personal resources. Meanwhile, Bhatia (2009) and Vanden Bos (2015) stated that stress is an outrageous stimulus of emotions that interferes the balance of thoughts and behaviors of an individual that produces a positive or negative response.

The Islamic perspective explains that stress is the nature of human life. This stress can have both positive and negative impacts depending on how a person controls, manages and handles the stress experienced. From another point of view, if an individual is able to manage the stressful situation he encounters, his reward will be greater in the sight of God (Mohd Taib & Hamdan, 2006). However, stress that is not managed properly can be detrimental to oneself and those around. Reactions to stress can also be sinful when doing things that are forbidden by religion. Prolonged symptoms of stress depend on the individual's ability to manage it on his own or with support obtained from others such as parents, children, colleagues, and the head of the organization, or anyone he trusts. Jusoh and Abd Kadir (2009) stated that stress is a common cause of emotional distress when a person does not know how to deal with it and will even cause greater problem.

Kyriacou (2000) explained that stress among teachers occurs when a teacher suffers from an emotional disorder as a result of the stress he faced due to his own factors or external factors. Stress also occurs due to an emotional state that is not at ease as a result of feeling frustrated, worried and angry about other matters. The symptoms of stress faced by teachers can cause serious psychological disorders and can even be detrimental to their health. Stress that fails to be controlled will cause teacher motivation to decrease which has a less favourable impact on the quality of education. The teaching and learning process (T&L) will be disrupted so that it can have a negative impact on student achievement. This will also disrupt efforts to achieve national educational goals.

In the context of stress experienced by teachers, past studies have examined workload, handling problematic students, time management, work environment and relationships among school staff (Tajulashikin & Fazira, 2013; Hart, Wearing & Conn, 1995; Kelly & Berthelsen, 1995). Teachers often experience stress stemming from external assignments (Sheppard, 2008), preparation of paperwork, attending various meetings (Hansen & Sullivan, 2003; Center & Steventon, 2001) and classroom management-related tasks (Center & Steventon, 2001). However, there is no denying that the main responsibilities of teachers are to prepare teaching plans, prepare activities related to teaching and learning, and book marking (Rieg, Paquette & Chen, 2007). In the context of Covid-19 pandemic situation, factors that contribute to teacher stress in conducting teaching and learning activities need to be identified.

A study conducted by Antoniou, Polychroni and Vlachakis, (2006) showed that the factors that cause teachers to experience stress are their students, lack of interest, low attainment and dealing with students with difficult behaviors. The study also showed that female teachers experienced significantly higher levels of occupational stress, specifically related to interactions with students and colleagues. In another study, Gold and Roth (2013) reported that many teachers are aware of stress in themselves, but they do not know how to deal with them as severe stress can affect performance, job satisfaction, and productivity. Furthermore, in terms of mental health, we agree with a previous study that this mental illness occurs due to external factors rather than internal factors (Mohamad & Ibrahim, 2018). This clearly proves that the field of work of the teacher is indeed closely related to the problem of depression. There are also past studies that have shown that employees in the field of education are at high risk for experiencing stress problems (Mohamad & Ibrahim, 2018).

Moreover, past studies have also proven that stress problems will cause a huge impact on the field of education. According to Zuraimy, Azizi and Mohd Nor (2016), time management stress

and career stress are in line with previous studies which found that workload, class size, workplace stress, ambiguity of roles and conflicts, lack of support from colleagues and administration, and student misconduct put pressure on the teachers. Azrul Hisham (2009) stated that burden of duty is one of the factors that cause teacher stress. Similar findings were obtained by Hong and Aziah (2015) on the comparison of teacher work stress in national schools and national-type schools in the southwestern district of Penang. They concluded that the burden of duty was the second highest contributing factor to teacher stress after student discipline factor. On the other hand, Azrul Hisham (2009) and Hong and Aziah (2015) conducted a study in the context of a normal teacher work environment. Research on the workload of teachers in the implementation of online teaching and learning activities during the pandemic is still lacking.

Consequently, teacher's stress will affect teaching and learning activities (Von Der Embse & Mankin, 2021; Pressley, Ha & Learn, 2021). The pupils will get some bad impacts when teachers are unable to prepare for teaching properly (Gupta, Aggarwal, Sable, Chahar, Sharma, Kumari, & Maji, 2021). The student's psychology aspect is also agitated because of the actions of teachers who are unable to control their emotions due to the stress (Madigan & Kim, 2021). The teachers who experience stress also can cause poor relationship between colleagues. This situation will affect the school climate.

Furthermore, teacher stress includes depression, mental stress, frustration and anxiety. Teachers who fail to control themselves due to stress will affect the teacher's relationship with students as well as the quality of teaching and learning especially online learning process. This problem can affect the quality of education and school which in turn hinders efforts to create a society that is able to excel and glorify the quality of education in Malaysia.

Competence in Information and Communication Technology (ICT)

In the context of online teaching and learning, the ICT aspect is an element that should be given attention. ICT competency refers to the skills of educators to teach, work and learn especially in a global and digital society that requires them to stay connected (ISTE, 2008). ICT competency is important to prepare teachers for effective technology pedagogical integration (UNESCO, 2008). This is to make teachers as users who can act in various ways to solve problems as well as assist teachers and students to gain benefit from technology.

Researchers from several countries also believe that the use of ICT for educational purposes depends on attitudes and views on technology (Chai, Hony & Teo, 2008; Albirini, 2004). Tabata and Johnsrud (2008) explained that readiness and attitude of teachers towards the use of ICT tools in the classroom is a key factor in determining the success of ICT integration in T&L activities. A study conducted by Naser, Leong and Fong (2010) found that the average teacher in Jordan showed a positive view on the use of ICT for educational purposes with a mean of 3.19 and a standard deviation of 1.43. However, the use of ICT equipment in schools is still low. Neighbouring countries such as the Philippines have already embarked on computer-based education campaigns in secondary schools, in addition to providing professional development and technical training services to teachers in the country since 2000 (Bingcang, 2014). Despite the campaign, several studies conducted on teachers revealed that the level of ICT competence of teachers in the Philippines is still at a very low and alarming level.

In 2000, the Malaysian Government established the Multimedia Development Corporation or Malaysia Digital Economy Corporation (MDeC) as a leader in ICT infrastructure development in Malaysia. This is one of the government's efforts in tandem with global developments to leverage ICT to boost the economy and human resource development to meet the economic needs of the 21st century. With the progress achieved in the field of ICT in accordance with today's modernization era, in addition to the pandemic that has plagued the world, the use of technology is soaring in the field of education.

Teachers need to be proficient in the use of ICT and should also evaluate strategies to implement appropriate use of ICT in curriculum field (Robbins, 1998). ICT competencies (Kirschner & Wopereis, 2003) include skills in using ICT tools for personal use, mastery of various educational and assessment paradigms, mind competence, teaching tools, and understanding the policy dimensions of ICT use for teaching and learning (Kirschner & Wopereis, 2003). Teacher education training should focus on the need for ICT-skilled teachers for preparing teaching and learning activity materials, as well as the need to facilitate the direct use of ICT in student learning activities in the current situation in general. Researchers perceive that the latency of ICT among teachers in Malaysia is important to be studied especially in the context of the implementation of online T&L activities during the pandemic situation. This is because every teacher must meet the TMK competency standards set by the MOE. This is an important element in the aspect of teacher professionalism when teachers can integrate TMK in learning and teaching activities in line with current demands.

During the pandemic situation, ICT is the foremost important tool that can be used to provide teaching and learning to our generation. In this crucial situation, teachers need to meet various competency requirements to perform their duties professionally. Akmalludin, Faizah and Caska (2017) emphasized the competencies that need to be possessed by teachers, namely pedagogical, personality, social and professional competencies. Teachers need to constantly make better changes to master these four competencies to conduct the primary duties of teachers in the world of education.

Previous studies have also shown that many teachers have low levels of ICT skills (Sathiamoorthy, 2013). In addition, some teachers do not understand the function of technology leadership to encourage teachers to integrate ICT effectively (Alkrdem, 2014). Knowledge and skills in the use of ICT among teachers are also still lacking in standards (Ozkan, Tokel, Celik & Oznacar, 2017). The inconsistent findings of past studies should be scrutinized to examine the level of teacher competence in Malaysia, especially during the pandemic situation.

Workload

Dhania (2010) explained that workload is an activity that should be completed by a unit of an organization or department within a certain period of time. Furthermore, Tarwaka (2010) described workload as a task borne by a workforce that suits his job but goes beyond the proper limits. According to Muhammad Shukri (1998), workload is the obligations assigned to instructors inside and outside of the classroom. Meanwhile, workload, as explained by Azita (2012), is the amount of time spent by teachers to complete various tasks linked to official duties as a teacher during or after school hours, such as teaching and learning, co-curricular activities, meetings, and so on. According to Easthope and Easthope (2000), an increase in the teacher-student ratio is part of an enhanced teaching workload. This is owing to the fact that teachers' work descriptions are constantly expanded with new tasks. This circumstance reduces

teachers' job satisfaction and organizational commitment, affecting their job performance. This idea is supported by the empirical findings of Hassam, Tahir and Muhammad Aslam (2011) that long working hours due to increased workload had an adverse impact on job satisfaction as this scenario interferes with one's well-being at work and at home.

Othman (2007) explained that an employee who is constantly confronted by humans as his client, such as a teacher, cannot escape from stress problems. Based on past studies, several researchers have argued that teachers nowadays have to deal with many changes in education which contribute to the extent of excessive workload. Altaf and Awan (2011) stated that workloads have a negative influence on job satisfaction. However, Rehman, Irum, Tahir, Ijaz, Noor and Salma (2012) noted that there is a positive relationship between workload and job satisfaction. Han, Yin, Wang and Zhang (2020) emphasized that stress negatively affects job satisfaction. On another note, Johari, Tan and Zulkarnain (2018) also stated that there is a negative relationship between the workload of an employee and his work performance. The burden of duties borne by an employee can improve the skills, knowledge and experience of employees which indirectly improves the organisational performance (Johari et al., 2018). However, Gahlan (2014) asserted that such a situation will affect work performance of where the burden of duties given to employees will cause employees to be dissatisfied with the organisation. In the context of school, when this phenomenon is not well managed, it will prompt many teachers to quit their jobs and apply for retirement options from this profession. In a study by Azreen Harina, Norudin and Zuraida (2016), work performance and workload were found to have a close relationship with each other.

Teachers are faced with a variety of tasks, roles and responsibilities that must be carried out on a daily basis (Torres, Ulmer & Aschenbrener, 2008). This is supported by Abdull Sukor, Abd Rahim and Mohamad Yazi (2006) that apart from teaching, teachers are also burdened with clerical duties and co-curricular related works, such as advisors or trainers. Although the main task of teachers is to teach, much of their time is allocated to non-academic tasks that contribute to stress (Abdull et al., 2006). McLean, Eklund, Kilgus and Burns (2019) argued that teachers tend to be prone to fatigue, dizziness and headaches when dealing with troubled students and clerical tasks that need to be completed immediately. A previous study conducted by Jomud et.al, (2017) showed that there was a relationship between stress and teacher workload. Heavy workloads and excessive work demands are risks to stress (Rice, 2005). Mangkunegara (2011) also stated that the cause of stress is heavy workloads and limited time given in completing assigned tasks.

In 2005, the National Union of Teaching Profession (NUTP) conducted a survey of stress among 9328 school staff nationwide and found that 69% of respondents worked in stressful situations (Utusan Malaysia, 29 March 2006). Among the impacts of heavy workload faced by teachers is resignation. This is in line with Crotwell's (2011) statement that among the factors teachers quit their career is due to workloads and salaries that do not match their duties. Müller, Alliata and Benninghoff (2009) also noted that the main factor that causes teachers to quit their careers is workload as they are incapable of managing the day-to-day workload.

Based on the analysis of previous studies in the context of teacher stress, we conclude that it is essential to study the predictors of the teacher stress in specific situations such as in online teaching and learning during pandemic. Therefore, we develop the following research

questions and hypotheses to test the contribution of teacher competence in ICT and teacher workload to teacher stress.

Research questions:

1. Is there any significance difference between male and female teachers in the aspect of stress?
2. Is there any significance difference between male and female teachers in the aspect of ICT competency?
3. Do ICT competency and teacher workload predict the teacher's stress?

Hypotheses:

Ho1: There is no significant difference between male and female teachers in the aspect of stress.

Ho2: There is no significant difference between male and female teachers in the aspect of ICT competency.

Ho3: ICT competency and teacher workload are not significant predictors of teacher stress.

Methodology

The study involved a cross-sectional survey with a completely quantitative approach. This approach was chosen as it suited the goal of this study to test the hypotheses constructed. Hypothesis testing in this study required answers in the form of values so that the description can be realized deductively. In addition, this study required an explanation of the predictive scores to explain the influence between the variables tested. Inferential statistical tests were conducted to analyze the data.

Sampling

The sample involved in this study were 326 school teachers in one of the northern states of Peninsular Malaysia. The minimum sample determination of this study was based on the sample determination table of Krejcie and Morgan (1970). Cluster sampling and simple random sampling techniques were used to collect data. All schools were divided into three clusters, namely zones 1, 2 and 3. Then, schools in each cluster were randomly chosen. All school teachers who were randomly selected became the study respondents.

Instruments

Three instruments were used to measure each latent construct. The first instrument was Teacher Stress Inventory (TSI) adapted from Kryiacou and Sutcliffe (1978). The 5-point Likert scale in the range of 1 to 5 represented "very not stressful" to "very stressful". This instrument has 12 items.

The second instrument used to measure the construct of teacher competency in ICT use was adapted from the Teacher ICT Competencies Scale by Tondeur et.al, (2015). The 5-point Likert scale with a value of 1 representing "very incompetent" to a value of 5 representing "very competent" was used. This measurement tool has 19 items.

The third instrument was Teacher Workload Questionnaire (TWQ) adapted from Mahazi, Zoharah, Khairuddin and Ramli (2015). The instrument contained 10 items and also used 5-

point Likert scale. The value of 1 represented “strongly disagree” to the value of 5 represented “strongly agree”.

In this study, researchers used back-to-back translation method for the translation of each item. Two experts, namely an English expert teacher and a Bahasa Malaysia expert teacher, were selected. Each item in English was translated into Bahasa Malaysia. Then, the results of this translation were reviewed by both experts. The items in Bahasa Malaysia were re-translated into English and also reviewed by both experts. The purpose was to ensure that the accuracy of the meaning of each item and the translation results was consistent.

The content validation was conducted by obtaining validation from experts in the field of educational psychology. Seven lecturers were selected from the university and the teacher education institute as a panel of experts to review and validate each item in the instrument used. Expert consensus rate was measured empirically using the Content Validity Index (CVI) method. Each item that obtained a CVI value greater than 0.86 can be considered valid for use in the study (Lynn, 1986).

Pre-tests were conducted by collecting 10 respondents via structured interviews. The purpose of the pre-test was to ensure that the respondents understood the items stated in the questionnaire. The respondents selected as the study sample were teachers who had the same characteristics. Based on the structured interview conducted, each respondent appeared to understand each item in the questionnaire. The time taken by each respondent to answer the entire item was also justified. Researchers ensured that all items were answered by the respondents.

A pilot test was also conducted on 65 teachers from other state who had the same characteristics. The purpose of the pilot study was to measure the reliability of each construct in this study, including teacher stress, ICT competency and workload during the pandemic.

Reliability Of the Constructs

Table 1: The Reliability of The Constructs

| Constructs | Alpha value |
|------------------------|-------------|
| Teacher stress | 0.850 |
| Teacher ICT Competency | 0.884 |
| Teacher workload | 0.828 |

Based on the alpha values obtained, each construct has a high level of reliability.

Findings

Statistical analysis of an independent sample t-test was performed to test the first hypothesis about the differences in teacher stress levels based on gender factors. Table 2 shows the results of the Ho1 statistical test.

Table 2: Results of Independent Sample T-test on The Differences in Teacher Stress Based on Gender Factors

| | | Levene's Test for Equality of Variances | | t-test for equality of means | | | | | | |
|--------|---|---|------|------------------------------|---------------|------------------------|--------------------|--------------------------|--|---------------|
| | | F | Sig. | t | df | Sig. (2- tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | Lower | Upper | |
| Stress | Equal variances assumed | 23.755 | .000 | 3.252 | 324 | .001 | .24500 | .07533 | .09680 | .39320 |
| | Equal variance not assumed | | | 3.549 | 182.88 | .000 | .24500 | .06903 | .10879 | .38120 |

The results showed that there was a significant difference in stress levels between male teachers (mean = 3.78) and female teachers (mean = 3.54) with a value of $t(324) = 3.252$, $p = 0.001$. Therefore, the null hypothesis was rejected.

Independent sample t-test was also performed to test the second hypothesis on the differences in the stress levels of male and female teachers in the aspect of information technology (ICT) competency. Table 3 shows the results of second hypothesis testing.

Table 3: Results of Independent Sample t-test on The Differences in ICT Competency Based on Gender Factors

| | | Levene's Test for Equality of Variances | | t-test for equality of means | | | | | | |
|------|--------------------------------------|--|------|------------------------------|---------|---------------------|--------------------|--------------------------|---|--------|
| | | F | Sig. | t | df | Sig. (2- tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | Lower | Upper | |
| Komp | Equal variances assumed | .371 | .543 | .276 | 324 | .783 | .01347 | .04884 | -.08263 | .10956 |
| | Equal variances not assumed | | | .271 | 148.267 | .786 | .01347 | .04962 | -.08460 | .11153 |

Levene's Test for Equality of Variances test showed the value of $p = 0.543 > 0.05$, which explained that equal variances assumed. The results of the independent sample t-test showed that there was no significant difference in the aspect of ICT competency between male teachers

(mean = 3.92) and female teachers (mean = 3.90) with a value of $t(324) = 0.276$, $p = 0.78$. Therefore, the null hypothesis was accepted.

Multiple regression analysis test was conducted to test the third hypothesis. The results are shown in Table 4.

Table 4: Results of Multiple Regression Analysis Test

| Model Summary | | | | | | | | | |
|--|-------------------|-----------------------------|-------------------|----------------------------|-----------------|---------------------|--------------|---------|---------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | Change Statistics F | df1 | df2 | Sig. F Change |
| 1 | .817 ^a | .668 | .666 | .35273 | .668 | 325.166 | 2 | 323 | .000 |
| a. PredTMKors: (Constant), Beban, Komp | | | | | | | | | |
| Coefficients ^a | | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Correlations | | |
| | | B | Std. Error | Beta | | | Zero-order | Partial | Part |
| 1 | (Constant) | -1.563 | .223 | | -7.008 | .000 | | | |
| | Komp | .239 | .057 | .153 | 4.196 | .000 | .501 | .227 | .134 |
| | Beban | 1.107 | .055 | .734 | 20.150 | .000 | .806 | .746 | .646 |

a. Dependent Variable: Stres

The results of multiple regression analysis showed that teacher ICT competency and workload during the pandemic were significant predictors of stress with $R^2 = .668$, $F(2, 323) = 325.166$, $p = .000$. Therefore, the null hypothesis was rejected.

Stress regression equation model = $-1.563 + (0.239 + 1.107)X$

Based on the R^2 values, the teacher ICT competency and workload accounted for 66.8% of the variance to stress. From the equation of regression, the stress experienced by teachers would decrease by 1.563 units for every 1% increase in teacher competency in ICT and lack of teacher workload. The findings explained that the less teacher workload and the higher the level of teacher ICT competency would reduce the teacher stress. The Beta (Standardized coefficients) value of the ICT competency was 0.1539 ($p < 0.005$), while the Beta value of workload was 0.734 ($p < 0.005$). Therefore, it can be inferred that the teacher workload aspect contributed more significantly to the stress experienced by teachers compared to the ICT competency aspect.

Discussion

Based on the findings of this study, female teachers have higher levels of stress compared to male teachers. This was likely due to the time constraints faced by female teachers. In pandemic situations, online teaching and learning activities conducted from home demand high commitment in terms of time sharing. Female teachers may struggle with the time between teaching and learning activities and household management during the pandemic. Studies in the employment sector have also found that female staff faced higher stress than male staff (Santamaría, Mondragon, Santxo, & Ozamiz-Etxebarria, 2021; Antoniou et al., 2006).

As for the teacher workload, female teachers were found to be more burdened in handling online teaching and learning activities compared to male teachers. Female teachers may face higher challenges in managing online teaching preparation compared to male teachers. Thus, online teaching and learning and work from home situations were significant contributors in this study. Female teachers had to struggle to manage household and teaching and learning activities simultaneously. Moreover, teacher's children also need to go through online T&L activities. According to Bongco and Abenes (2019), female teachers felt the burden of task they experienced was higher than that of male teachers.

Moreover, in the context of organisation, the burden of duties assigned to employees varies according to the abilities or status of the position. Female teachers hold multiple positions at one time possibly as they are the majority in the schools. In addition to academic tasks, co-curriculum, additional activities, clerical and "ad hoc" tasks are also assigned by the school administration to teachers. Study conducted by Kimbal, Sendow, and Adare (2015) stated that the work efficiency of employees will be satisfactory if the assigned task matches their competencies.

Furthermore, the male and female teachers did not differ significantly in the aspect of ICT competency. These findings may be influenced by the skills acquired by the teachers to carry out teaching and learning activities. During pandemic, various online workshops were also organized by MOE, NRD and PPD to enhance the skills of teachers in using ICT applications to conduct online activities. In fact, MOE has subscribed to the Google Classroom service for the convenience of teachers and students to interact and manage online activities.

The two predictor factors tested accounted for 66% of the variance to the stress experienced by teachers in performing online teaching and learning activities during the pandemic. The results of statistical analysis showed that the workload aspect contributed significantly to stress compared to ICT competency aspect.

This study also demonstrated that poorly managed workloads can cause teachers to face high levels of stress and can affect their teaching performance. Administrators need to play their role in analyzing the types of tasks that burden teachers in pandemic situations. Past studies have shown that teacher workload if not managed properly can cause them to face fatigue and burnout (Carroll et al., 2022; Rajendran, Watt & Richardson, 2020).

Moreover, competence in ICT was a significant predictor of teacher stress in conducting online teaching and learning activities. Higher competency may reduce the stress experienced by teachers in leveraging current technology in teaching and learning activities.

Conclusion

Challenging situations such as the Covid-19 pandemic that hit the world present a huge challenge to teachers in conducting T&L activities. Aspects of teacher's personal well-being should be given attention for a harmonious work environment. This study provides meaningful input to the field of educational psychology on the important elements that contribute to the stress experienced by teachers in the pandemic situation. This study can serve as a guide for policy makers to prepare for the future if pandemic situations occur. To better understand the contributing factors to teacher stress in specific situation such as the Covid-19 pandemic, larger samples and mix-method approach are needed in future studies.

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