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Predicting psychological distress: A cross-sectional study of Malaysian teachers

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***ABSTRACT**--Based on the theory underlying the Job Demands-Control (JDC) and Job Demands-Control-Support (JDCS) models, the current study examined the predictors of psychological distress involving job demands, job control and social support. The cross-sectional study designed involved 335 teachers from Kuala Terengganu, a district located on the East Coast of Malaysia. The regression analysis showed that job demands, job control and social support significantly predict psychological distress among teachers. Overall, this study contributes to the corpus of literature by using JDC and JDCS models in the context of the Malaysian culture. Improving job control and social support, reducing job demands considered as important factors to prevent psychological distress among teachers.*

***Keywords**--Psychological Distress; Cross-Sectional; Teachers; Malaysia*

I. INTRODUCTION

Teachers are important role models for future generations, where they are responsible for guiding students to learn by providing and disseminating knowledge and skills. Yet, apart from teaching duties, teachers nowadays are burdened with considerable administrative duties on a daily basis such as documenting and conducting programmes (Ali, Nordin, Said, Manaf, & Musa, 2017; Musa, Moy, & Wong, 2018). For example, most teachers in the West Coast of Peninsular Malaysia reported that they need to complete all data entry and examination assessment beyond their working hours due to system congestion within working hours (Musa et al., 2018). Obliged with online assessment requirement, teachers have to work during midnight which reduce the quality sleep and time with families. In addition, Kamarozaman Abd Razak (2018), the President of the National Union of Teaching Profession (NUTP) discovered that increasing workloads experienced by teachers was on the contributing factors leading to teachers' depression. Surprisingly, NUTP (Ismail, 2019) also revealed that diligent teachers suffer from high levels of work stress due to the overwhelming workload based on their great effort. Teaching is as a challenging and stressful profession due to physical and mental challenges (Desouky & Allam, 2017; Kavita & Hassan, 2018; Velaytham & Surat, 2019). Out of 48258 teachers, 4.4% reported as having

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moderate stress levels (Radhi, 2018) due to personal problem as well as work related problems including workloads, poor management and lack of skills related to task and stress management. As the education system in Malaysia has undergone rapid changes in terms of vision, mission, curriculum, teaching and learning, and as well as assessment (Aziz & Hussin, 2017), these changes have affected human psychology, especially in terms of psychological distress. Psychological distress can lead to serious health problems such as depression, psychiatric illness, anxiety, and stress (Makhbul & Khairuddin, 2014) may affect organizational development, including absenteeism (Tahir, 2011; Wah, 2014), intention to quit (Renzulli, Beattie, & Parrott, 2011) and decreased work performance (Akhlaq, Amjad, Mehmood, Hassan, & Malik, 2010). The current study sheds light on the prediction on teachers psychological distress by testing the identified predictors postulated by the Job Demand-Control (JDC) model (Karasek, 1979) and the Job Demand-Control-Support (JDCS) model (Johnson & Hall, 1988), undertaken in an Asian context of Malaysia.

II. LITERATURE REVIEW

2.1 Psychological distress

Psychological distress is defined as the psychological response to unpleasant situations and the dangers of stressful work (De Croon, Sluiter, Blonk, Broersen, & Frings-Dresen, 2004). The term psychological distress has been applied in the context of strain, stress, and distress (Ridner, 2004). Psychological distress is also a common disorder of a combination of anxiety and depression (Bultmann et al., 2005; Hirschfeld, 2001; Jorm, Christensen, & Griffiths, 2006) Studies in Nigeria, the United Kingdom and Hong Kong reported that teachers experienced psychological stress by 38% (Chan, 2002; Chaplain, 2008). Yu, Gu, Zhou and Wang (2008) emphasised that power plant workers face psychological stress and physical stress reactions as a result of increased workload and lack of support. Thus, psychological distress refers to the response that the worker receives due to the unobtrusive nature of the work environment that causes psychological health problems such as stress, depression and anxiety. Therefore, this study uses the Depression, Anxiety, Stress Scale (Lovibond & Lovibond, 1995) to measure respondents' psychological distress in terms of depression, anxiety and stress among teachers in Terengganu.

2.2 Effects of job demands, job control and social support on psychological distress

A study in Malaysia by Isahak (2013) revealed that 75 public university employees showed different levels for depression, anxiety and stress in which employees are at greater risk of stress than depression and anxiety as they are exposed to psychological risks in the workplace. In addition, Yaakub and Sidik (2014) found that work stress and anxiety occur among workers as increased psychological demands and decreased job control. Automotive workers with high psychological demands are more prone to experience depress, anxiety and stress. In self-reported study involving assembly workers in Malaysian automotive company, Edimansyah et al. (2008) reported that high job demands and supervisory support were related to workers' depression and stress. However, due to the nature of assembly work hold by workers, job control did not related and significant to these psychological distress.

Asian studies involved different occupations also reported similar findings. For example, studies involving nurses in Japan, Korea and China (Gao et al., 2012; Yoon & Kim, 2013; Yoshizawa et al., 2014) reported that

nurses are at high risk of developing depression due to the different levels of job stress in the nursing profession compared to other occupations. Job control and supports from supervisors are two essential elements that reduce depression among nurses (Saijo et al., 2016). Other studies in Japan and China by Kitaoka-Higashiguchi et al. (2002) and Yu, et al. (2008) reported both factory managers as well as workers at greater risk of high depression as a result of increasing labour demands or workload and lack of labour controls and decision-making power.

In Western countries such as Spain and the European union countries, low job control and low social support were also related to low psychological wellbeing (Escriba-Aguir and Tenias-Burillo 2004), while, high job demands and workloads as well as low job control were associated with health related problems, psychiatric illness and absenteeism (Gimeno, Benavides, Amick III, Benach, & Martinez, 2004; Kivimaki, Elovainio, Vahtera, & Ferrie, 2003). Other Western study by Brough and Pears (2004), also reported that high job demands and low job control contributed to low job satisfaction and workers' wellbeing. High job demands, low job control and low supports contribute to employee depression and stress (Boschman, Van der Molen, Sluiter, & Frings-Dresen, 2013; Iennaco et al., 2010; Nieuwenhuijsen & Bruinvels, 2010). In addition, Willemse, de Jonge, Smit, Depla and Pot (2012) found that employees with high workloads are less satisfied with work, feel more emotional and experience personal achievement when they receive high levels of social control and support.

Job related strain due to high job demands and low job control has been postulated by Karasek's Job Demand-Control (JDC) model (1979). Expanding his work, Johnson and Hall (1988) introduced the Job Demand-Control-Support (JDCS) model which potrayed the isolation strain (iso-strain) working condition. In other words, in high strain job, employees with high job demands and low job control, and in isolation strain job, employees with high job demands, low job control and low social support demonstrated adverse consequences associated to high risk health and wellbeing. In this study, the prediction model consists of job demands, job control and social support as predictors and psychological distress which are measured by depression, anxiety and stress is considered as criterion variable. Both main and additive effect of job demands, job control and social support on teachers' psychological distress are evaluated to test the research model. In the regression model, contribution of each predictor (job demands or job control or social support) as well as joint contribution of all predictors (job demands + job control + social support) are accountable in explaining variance of psychological distress.

From the above reviewed literature, the current study predicts that job demands, job control and social support were related and predictors to teachers' psychological distress (depression, anxiety and stress).

III. METHODOLOGY

3.1Participants

The current study involved 335 secondary school teachers in Kuala Terengganu, states in the East Coast of Peninsular Malaysia. The questionnaires were distributed to 419 teachers during the preliminary stage of data collection. However, due to missing and incomplete data as well as unreturnable questionnaires, the number has been reduced to 335 (79.95% response rate). According to (Sekaran, 2003) the minimum rate of 30% responses is considered acceptable. The research participants comprised 78 men (23.3%) and 257 women (76.7%); where the

majority of them were Malay and Muslim (96.4%, N=323). Most participants were married (91.6%, N=307) with children. The age of participants ranged from 31 to 50 years (76.4%, N=256).

3.2 Research Instrument

The instruments were translated from English to Malay using back to back translation (Brislin, 1970). The translation process involved two independent translators well-versed in English and Malay. The questionnaires were divided into three sections;

Demographic profiling. This section asked about the demographic background of the participant including age, gender, race, marital status, education level as well as monthly income.

Job demands, job control and social support subscales were measured using the Job Content Questionnaire (JCQ) (Karasek, 1985) and the translated Malay version (Edimansyah, Rusli, Naing, & Mazalisah, 2006; Ibrahim, 2012). Examples of items were "I have enough time to get the job done" (psychological demands; 5 items), "I have an opportunity to develop my own special abilities" (job control; 9 items) and "My supervisor is successful in getting people to work together" (social support; 8 items). The JCQ scale ranged from 1 (strongly disagree) to 4 (strongly agree). Five negatively response items needed for reverse scoring. Cronbach' alpha values for this study were 0.65 (psychological demands), 0.79 (job control) and 0.84 (social support). The alpha (α) value for the psychological demands scale is comparable to previous findings (Cheng, Luh, & Guo, 2003; Ibrahim, 2012; Li, Yang, Liu, Xu, & Cho, 2004) as well as acceptable minimum reliability index (Hair, Anderson, Tatham, & Black, 1995; Nunnally, 1967).

Depression, Anxiety and Stress were measured using 21 items adopted from Lovibond and Lovibond (1995), and Musa, Fadzil and Zain (2007). This is a 4 point Likert scale from 0 (never) to 4 (almost always) with high value of reliability index (depression, $\alpha = 0.86$; anxiety, $\alpha = 0.88$; stress, $\alpha = 0.86$). Example of items are "I couldn't seem to experience any positive feeling at all" (depression), "I was aware of dryness of my mouth" (anxiety) and "I found it hard to wind down" (stress).

3.3 Statistical analysis

The study used the Statistical Package for Social Sciences (SPSS) version 25 as a statistical software tool to analyse the data. For the preliminary analysis, percentage and frequency were used to profile the demographic characteristics and measuring levels of teachers' anxiety, stress and depression. To test the prediction model of psychological distress, control variables consisting of demographic variables (gender, age, marital status, number of children and working experience) were entered into the regression model. In the following step, all predictor variables (job demands, job control and social support) were regressed as additive effect accounted by these variables in explaining variance on teachers' psychological distress.

IV. RESULTS

4.1 Levels of psychological distress among teachers

Table 1 describes the levels of severity of psychological distress experienced by the participants. 43.59% (N=146) of the teachers reported that they had severe depressive symptoms while 25.69% (N=86) with extremely severe symptoms. About 0.57% (N=2) and 30.15% (N=101) had mild and moderate symptoms respectively. In

term of anxiety symptoms, 82.39% (N=276) classified in extremely severe and 14.93% (N=50) in the severe category, while the rest in mild (0.89%; N=3) and moderate (1.79%: N=6) symptoms. 93.43% (N=313) of teachers had stress symptoms where 53.13% (N=178) of them in the category of mild to moderate and 40.3% (N=135) were in the severe to extremely severe category.

Table 1: Severity of depression, anxiety and stress among the participants (N=335)

	Depression (%)	Anxiety (%)	Stress (%)
DASS Score			
Normal	-	-	22(6.57%)
Mild	2 (0.57%)	3 (0.89%)	46 (13.73%)
Moderate	101 (30.15%)	6 (1.79%)	132 (39.40%)
Severe	146 (43.59%)	50 (14.93%)	127 (37.91%)
Extremely severe	86 (25.69%)	276 (82.39%)	8 (2.39%)

Table 2 showed reliability and correlations between variables including predictor variables; job demands, job control and social support as well as criterion variables (depression, anxiety, stress). Most were significant and correlated in the expected direction.

Table 2: Correlation between all studied variables

	α	1	2	3	4	5	6
1. Depression	0.86	-					
2. Anxiety	0.88	0.70**	-				
3. Stress	0.86	0.78**	0.73**	-			
4. Job demands (JD)	0.65	0.22**	0.20**	0.21**	-		
5. Job control (JC)	0.79	-0.21**	-0.23**	-0.24**	-0.22**	-	
6. Social support (SS)	0.84	-0.07*	-0.07*	-0.07*	-0.01	0.20**	-

Notes. N = 335. Significance level; *$p < 0.05$; and **$p < 0.01$.

Table 3 presents the results of regression analysis. Results of regression analysis confirmed that job demands, job control and social support were significant predictors to teachers' psychological distress (depression, anxiety and stress). Entering job demands, job control and social support in the regression model explained the total variance in predicting depression, anxiety and stress as a whole was 10.4%, $F(8,326) = 10.33$, $p< 0.001$; 11.1% $F(8,326) = 10.41$, $p < 0.001$ and 10.9% $F(8,326) = 11.99$, $p < 0.001$ respectively.

Table 3: Results of regression analysis in predicting psychological distress (depression, anxiety and stress)

Variables	Depression	Anxiety	Stress
	β	β	β
Control variables			
Gender	0.071 (0.183)	0.093 (0.079)	0.040 (0.449)
Age	-0.039 (0.474)	-0.012 (0.834)	-0.048 (0.403)
Marital status	-0.010 (0.852)	-0.012 (0.821)	-0.005 (0.931)
No of children	-0.014 (0.801)	-0.034 (0.542)	-0.005 (0.932)
Working experience	0.086 (0.114)	-0.095 (0.105)	-0.054 (0.356)
Predictor variables			
Job demands	0.171 (0.002)**	0.143 (0.000)***	0.157 (0.004)**
Job control	-0.197 (0.000)***	-0.222 (0.008)**	0.234 (0.000) ***
Social support	-0.110 (0.043)*	-0.109 (0.044)*	-0.122 (0.024) *
R^2	0.104	0.111	0.109
ΔR^2	0.085***	0.085***	0.098***

Notes: β = standardised regression coefficient; N= 335. Significance level: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; ( ) = exact *p*-value.

V. DISCUSSION AND CONCLUSION

The current study investigated the prediction of teachers' psychological distress (depression, anxiety & stress). The results showed that job demands, job control and social support predict psychological distress. This indicated that teachers who have high job demands, low levels of job control and low social support tend to experience high levels of psychological distress. In alignment with JDC and JDCS models, this study supported the notion that psychological distress presents in the jobs described as high demands, low control and support which corroborate with previous research (Bakker & Demerouti, 2007; Ter Doest, Maes, & Gebhardt, 2006). Work demands have short and long-term effects on employees' psychological tensions related to high levels of depression, anxiety and stress (Jex, 1998; Podsakoff, LePine, & LePine, 2007).

Consistent with previous studies (Ferguson, Frost, & Hall, 2012; Hindman & Bustamante, 2019; Wenze & Battle, 2018) teachers are at risk from suffering from symptoms of depression due to job demands including the large number of students taught, changes in teaching assignment and administrative works. In addition, being a teacher in a high prestige school with high demands in order to maintain school performance is another risk for increasing teachers psychological distress. High job control is associated with reduced risk of psychological distress (Yaakub & Sidik, 2014). Teachers are more at risk for depression because of their lack of decision-making

power (Iennaco, et al., 2010; Kitaoka-Higashiguchi, et al., 2002; Yu, et al., 2008). Häusser, Mojzisch, Niesel and Schulz-Hardt (2010) found that low job control can lead to mental disorders.

More positive social support in the workplace can help teachers solve problems creatively and collaboratively and can provide the strength to help ease workloads. Workers in Japan, Korea and China are also at high risk of depressive symptoms due to lack of social support (Letvak, Ruhm, & McCoy, 2012; Saijo, et al., 2016). Higher social support can reduce employee depression because they have the potential to protect themselves from the harmful effects of life (Cooper, Dewe, & O'Driscoll, 2001; Sargent & Terry, 2000). Therefore, full attention to teachers' social support is essential as a social unit that can provide the opportunity to positively build teachers' mental health and reduce depression (Esnard & Mohammed, 2014). This is because teachers require significant support, motivation and communication by school leaders (Yaacob, 2012; Zahlan, 2012).

Research to date found few studies have concentrated on employee psychological distress building upon the JDC and the JDCS models. Thus, this study contribution lies in testing the Western-developed models in the context of Malaysia, an Eastern and multi-cultural respondents. In addition, the expansion of western model generalization could contribute to the field literature.

Despite the study's contributions, considerations should be given to the limitations of the study including generalising the findings to all teachers in Malaysia since respondents were recruited mainly from one of the districts in Terengganu. Furthermore, as this study employed self-reported data as well as a cross-sectional design (Cole & Maxwell, 2009; Podsakoff, Mackenzie, & Podsakoff, 2012), concern for the common method bias must be addressed. Therefore, to strengthen the findings related to the prediction on psychological distress and further causal relationship study, a longitudinal research design would be beneficial (Zapf, Dormann, & Frese, 1996). Conducting more than one period of data collection could produce a significant understanding of the most reliable predictors psychological distress among Malaysian teachers.

In conclusion, this study revealed the importance of understanding the combination of reducing job demands, enhancing job control and social support in mitigating the psychological distress among teachers. It is suggested that organisations especially school administrators should protect their employees with a supportive psychosocial working environment, including low job demands, high job control as well as social support.

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