

Academic Stress, Coping and Social Cultural Adaptation of Psychological Well Being among Indonesian Postgraduate Students

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ABSTRACT

This article explores the various dimensions of academic stress factors, coping, and social-cultural adaptation on psychological well-being of 150 Indonesian postgraduate students. The study implemented a correlational research design whereby a conceptual model was produced, which correlated both the dependent and independent variables. Data analysis was performed using SPSS and SmartPLS (Partial Least Squares). The scientific novelty includes the conceptualization of academic stress, coping, social-cultural adaptation, and psychological well-being among Indonesian postgraduate students; thus, results may differ from previous findings, while contributing an in-depth knowledge in this area. The preliminary analysis results indicate that the Cronbach Alpha (CA) and Composite Reliability (CR) of the four first-order reflective dimensions, namely academic stress, coping, social-cultural adaptation and psychological well-being, met the quality standard of reliability (CR) and convergent validity (AVE). Therefore, all constructs are reliable and valid. Consequently, it can be concluded that academic stress, coping, and social-cultural adaptation have a significant influence on the psychological well-being of Indonesian postgraduate-students.

Keywords: Academic stress, coping, psychological well-being, social cultural adaptation, Structural Equation Modeling

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INTRODUCTION

Colleges or universities are considered institutions that cause stress on both undergraduate and postgraduate students (Friedlander et al., 2010; Taha et al., 2017) due to its unique and demanding environment

that often requires students to balance their various roles and responsibilities. This notion is consistent in some studies, which indicated that 90% of university students experienced significant stress (Kadapatti & Vijayalaxmi, 2012; Taha et al., 2017; Thurber & Walton, 2012). College students experience high stress due to academic commitment (Sansgiry & Sail, 2006), social and family relationships (Desmita, 2009), finances (Andrews & Wilding, 2004), daily complexity, lack of time management (Harikiran et al., 2012), time demands, and new responsibilities (Aselton, 2012; Jdaitawi, 2015). Uncontrolled stress that exceeds a certain level will create various problems in individuals (Romas & Sharma, 2004), such as prolonged anxiety and excessive depression.

In the last few years, studies have reported that there is a relationship between academic stress and university students (Friedlander et al., 2010; Thurber & Walton, 2012; Yusoff et al., 2010). Hamid and Rhouse (2005) distinguished between the university and its students, stating that university students were stressful when undergoing academic life. For example, the burden of duties given by lecturers, depressing college conditions, personal adjustment problems with friends and the environment, conflicts, and competition in academic achievement are among the causes of stress. These findings were also supported by Yeh and Inose (2003). They stated that adapting to new situations and environments was not easy for students, especially if the socio-cultural difference between foreign

and home countries was immense. This problem may intensify the stress level of students studying abroad or those studying at a considerable distance from home.

For instance, it was identified that as many as 55.8% of Indonesian students experienced overwhelming academic stress, and most of the respondents who suffer from academic stress were females (Suwartika et al., 2014). This finding is supported by Masdar et al. (2016), who discovered that more female students (41.0%) were affected by academic stress compared to male students (28.8%). Stress will have a negative impact on individuals if they fail to manage it wisely as it can influence the individual's thoughts and behavior (Greer & Brown, 2011).

Students' response towards stress varies (Safaria, 2006) and may lead to many adverse outcomes if it is not managed appropriately (Greer & Brown, 2011). In recent developments, some researchers mentioned that an individual would tend to employ coping strategies when faced with stressful situations; and the strategies could either be positive or negative (Greer & Brown, 2011; Hoggard et al., 2012; Lazarus, 1966; Lazarus & Folkman, 1984; Rice & Van Arsdale, 2010; Somerfield & McCrae, 2000). A theory popularized by Lazarus and Folkman (1984) suggests that there are two types of coping strategies, problem-focused coping and emotion-focused coping. When the coping strategy is employed successfully by individuals, it leads to better physical and psychological well-being (Dzokoto et al., 2007; Natovova & Chylova, 2014; Selian & Hamid, 2016).

Traditionally, stress is the most vital factor associated with students' psychological well-being as it can determine and predict academic achievement (Dzokoto et al., 2007). It is evident in numerous studies that students who wish to have better results in relationships need to have a high level of well-being (Borrello, 2005; Lyubomirsky et al., 2005). This is because individuals with high psychological well-being are able to control their stress well (e.g., able to organize their schedule efficiently, despite the hectic class activities), experience a high level of self-esteem (a healthy body to handle all class activities), emotionally intelligent, and capable of producing high-quality work (Diehl & Hay, 2011; Myhren et al., 2013; Natovova & Chylova, 2014; Sagone & De Caroli, 2014). Therefore, this paper aims to shed new light on the effect of the dimensions of academic stress, coping, and social-cultural adaptation on the psychological well-being of Indonesian postgraduate students.

LITERATURE REVIEW

Three theoretical frameworks were implemented in this study: 1) the transactional model of stress and coping (TMSC) by Lazarus and Folkman (1984), 2) the social-cultural adaptation (SCAS) by Searle and Ward (1990), and 3) the psychological well-being (PWB) developed by Carol Ryff (1989). Meanwhile, there were four main variables in this study, three of them were independent variables (academic stress, coping, and socio-cultural adaptation), and the fourth was the dependent variable (psychological well-being).

The academic stress (ASS) in this study consisted of three sub-constructs, namely physical stress (SF), psychosocial stress (SPK), and psychological stress (SPS). The second variable, coping or COPE, consisted of three sub-constructs, namely problem-focused coping (PFC), emotion-focused coping (EFC), and coping responses (LCR), which is less useful. The third variable, socio-cultural adaptation (SCAS), is divided into five sub-constructs, namely making friends (AKB), participating in social gatherings (APS), using transportation (AMP), communicating with national hosts (AKW), and shopping (ABB). The last variable, psychological well-being (PWB), consisted of six sub-constructs, namely autonomy (KPA), environmental mastery (KPS), personal growth (KPP), positive relations with others (KPH), self-acceptance (KPK), and purpose in life (KPT). Figure 1 shows the priori model of the proposed research model of this study.

The theoretical model of Lazarus and Folkman (1984), or also known as the Transactional Stress Model theory, explains the process of coping with stress. The TSMC process is complex, and it is relevant and applicable as a theoretical framework for the current research, as it conceptualizes and illustrates how stressful (academic stress) situations experienced by university students serve as a contributing factor to the psychological well-being of students. By employing PFC and EFC to handle stress, it can relatively improve a person's well-being, who, in this context, is Indonesian postgraduate students. Likewise, with the

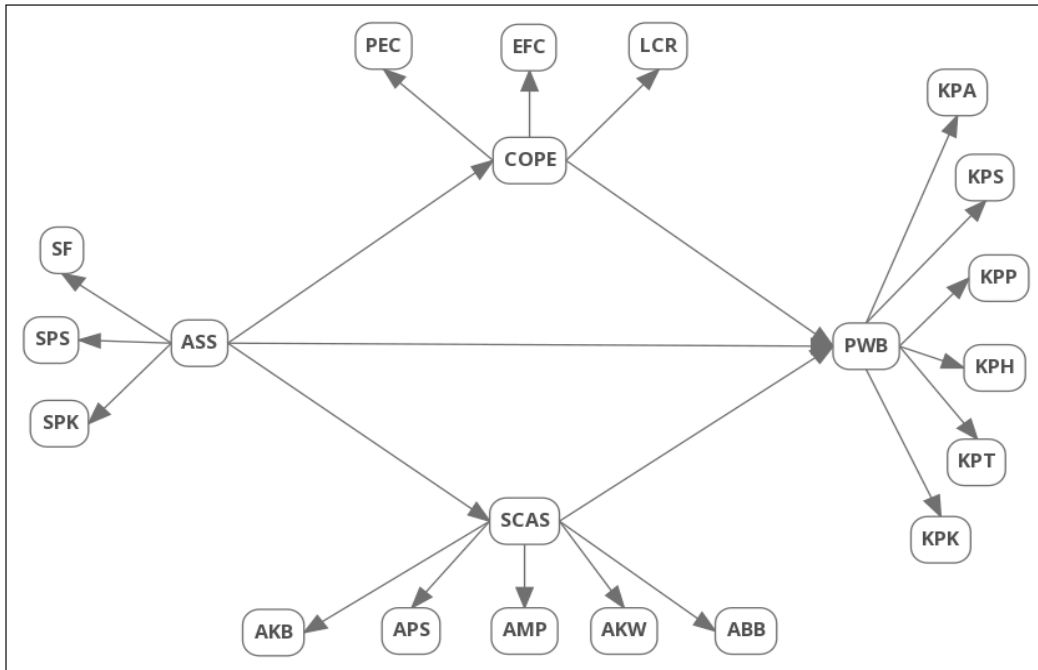


Figure 1. The psychological wellbeing model by applying SEM Approach

theory of socio-cultural adaptation (SCAS), university students who can adapt to their environment while facing academic stress will be able to improve their psychological well-being.

METHODS

Data findings of this study were obtained from a pilot study, which served as part of the original research data. The study utilized the survey questionnaire distributed online (via Indonesian postgraduate student mailing list), and the sample determination of this study was a simple random sampling technique. The next section presents a brief description of the research design, population and sample size, research instruments, and data analysis.

Research Design

This quantitative research was based on the form of research questions focusing on the correlation between variables. Creswell (2012) explained that correlation studies described and measured the level of relationship between two or more variables.

Population and Sample Size

The population in this study was Indonesian students whose studies were sponsored by Indonesia Endowment Fund for Education (LPDP). The recipients were studying at Masters and Doctoral level, aged between 23 and 47 years. Based on information obtained from the LPDP database, the student population registered with the LPDP mailing list consisted of 10,070 students (data updated on April 30, 2018). With

regard to the G-Power method, its four predictors require 129 respondents; thus, 150 students were engaged for the current preliminary study (Faul et al., 2009).

Research Instruments

The instrument utilized in this study was in the form of questionnaires developed by previous researchers and was deemed relevant to the purpose of this study. A total of four questionnaires were employed, which are as follows:

The Academic Stress Scale (ASS). The Academic Stress Scale (ASS), developed by James Kohn and Gregory Frazer in 1986, was used to collect data for this study. The ASS was designed to measure the source of student academic stress, which consists of 35 items on a 5-point Likert scale, ranging between (1) Not at all stressful, (2) Rarely stressful, (3) Sometimes stressful, (4) Fairly stressful, and (5) Extremely stressful. The higher score obtained indicates, the higher academic stress experienced by respondents. Previous studies (Burnett & Fanshawe, 1997; Kohn & Frazer, 1986) noted good internal reliability for the whole scale ($\alpha = 0.92$) and for each sub-scale and factor ($\alpha = 0.73 - 0.84$).

The Coping Orientations to Problems Experienced Inventory (COPE). The Coping Orientations to Problems Experienced Inventory (COPE) was founded by Carver et al. (1989). COPE has 60 question items that measure the value of coping. Respondents were asked to choose

an answer based on their experience in coping, using a 4-point Likert scale, which is (1) I usually don't do this at all, (2) I usually do this a little bit, (3) I usually do this a medium amount, and (4) I usually do this a lot. The questionnaire aims to gauge respondents' responses to what they generally do and feel when they were experiencing stressful events. COPE was proven to be reliable as the alpha values were on a certain range between 0.73 to 0.86 (see Litman, 2006; Mitchell, 2016).

Sociocultural Adaptation Scale (SCAS). Searle and Ward developed the Socio-Cultural Adaptation Scale (SCAS) in 1990. The SCAS was designed to measure the cognitive and behavioral dimensions of individual social and cultural adaptation. The scale consists of 41 items, which range from 1 (no difficulty) to 5 (extreme difficulty). Lower scores indicate that respondents have less difficulty and stronger socio-cultural adaptation; on the other hand, high scores indicate that respondents have high difficulties and weak socio-cultural adaptation. Previous studies reported that SCAS had a Cronbach's alpha value of .91 (Klemens & Bikos, 2009) and .88 for the research by Wilson et al. (2013).

Ryff's Psychological Well-Being Scale (RPWB). This study employed the Ryff's scale for the measurement of psychological well-being. Ryff's Psychological Well-Being Scale (RPWB) is a survey instrument developed by Carol Ryff in 1989, and it has 42 question items. This scale uses

six response options on a Likert scale, namely: (1) Strongly disagree, (2) Disagree, (3) Quite disagree, (4) Quite agree, (5) Agree, and (6) Strongly agree. The higher score obtained indicates the respondents' higher psychological well-being. This Ryff scale measure had been tested by several Western researchers, such as studies with a Cronbach's alpha of .80 (Abbott et al., 2006; Springer & Hauser, 2006; Van Dierendonck, 2004). Meanwhile, in Asian studies (such as in Malaysia), the 42 items obtained Cronbach's alpha values of .75 (Omar, 2009), .70 (Wan Othman, 2014) and .82 (Hashim & Wan Othman, 2015).

Data Analysis

In order to analyze the data collected, Statistical Package for the Social Science (SPSS) and Smart PLS 3 (Partial Least Squares) software were applied. It was mentioned by Hair et al. (2011) that if the research goal is exploratory, the researcher should use PLS-SEM; thus, the data were analyzed according to the analytical procedures suggested by Hair et al. (2017b).

RESULTS

Exploratory Factor Analysis (EFA)

The researcher analyzed data from the pilot study for both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). During the pilot study, a total of 300 usable sample responses was obtained, in which 150 samples ($n=150$) were retained for EFA purposes. In this study, EFA was conducted using the principal axis factoring

method with varimax rotation. EFA was performed to drop items with low factor loadings. Most of the literature suggested that a cut-off point equal or above 0.40 is fair. For example, Tabachnick and Fidell (2007), Comrey and Lee (1992) suggested that the cut-off point of 0.32 (poor), 0.45 (fair), 0.55 (good), 0.63 (very good), and 0.70 (excellent). In this study, factor loadings less than 0.40 were excluded from further analysis of the confirmatory factor analysis. With regard to having a stringent EFA test and meeting the research objective to determine the items for each factor in the three dimensions (e.g., Physical Stress [SF], Psychological Stress [SPS] and Psychosocial Stress [SPK]), the Principal Axis Factoring (PAF) extraction with Varimax rotation method were adopted (Tabachnick & Fidell, 2007). The PAF with varimax rotation is used for the extraction of the factor dimensions from the SF dimension of 7 items and 14 items for the SPS and SPK, respectively.

Table 1 reports the factor loadings for the academic stress scale. Items are removed if the factor loadings are less than 0.40 (Hair et al., 1998). By using a fixed number of factors, 3 for ASS, a total 53.85% variance was extracted to determine the number of factors to be retained. Williams et al. (2010) and Stevens (2002) postulated that items with a factor loading of at least 0.40 were acceptable. The suitability of data was supported by the significance of Bartlett's Test of Sphericity ($p<0.05$) and Kaiser-Meyer-Olkin (KMO) index of at least a cut-off point of 0.60 (Tabachnick & Fidell,

2007). Based on the construct of academic stress scale (ASS), the data achieved the KMO (0.912) and Bartlett's thresholds ($p=0.000$). Thus, the sample was adequate and acceptable for EFA.

Table 1
Academic Stress Scale (ASS)

Items	F1	F2	F3
SF3	0.609		
SF4	0.582		
SF6	0.756		
SF7	0.639		
SF8	0.809		
SF9	0.609		
SF10	0.639		
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SPS1		0.587	
SPS2		0.640	
SPS3		0.730	
SPS4		0.666	
SPS5		0.672	
SPS6		0.626	
SPS7		0.713	
SPS8		0.796	
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SPS11			
SPK2			0.625
SPK3			0.698
SPK4			0.530
SPK5			0.600
SPK7			0.544
SPK8			0.512
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Eigenvalue	12.57	4.08	2.34
Variance	22.85%	20.03%	10.96%
Items deleted	SF1, SF2, SF5	SPS9, SPS10, SPS12, SPS13, SPS14, SPS15, SPS16	SPK1, SPK6, SPK9

Note: Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization. Total variance: 53.85%, KMO: 0.912, Bartlett test of Sphericity, Chi-square= 3207.841, Df= 595, Sig = 0.000.

The EFA performed on COPE indicated that the three factors explained 47.77% of the total variance based on a fixed number of factors of 3. Table 2 shows that factor loading for items of Problem-Focused Coping (PFC) was ≥ 0.40 ; thus, no items were deleted. Items with factor loading ≥ 0.40 are acceptable (Stevens, 2002). Factor loadings less than 0.40 was removed from Emotion-Focused Coping (EFC) and Coping responses are less useful (LCR) respectively. Subsequently, to assess the factorability of the data, Bartlett's Test of Sphericity (Bartlett, 1954) and the KMO

Table 2
Coping Orientations to Problems Experienced Inventory (COPE)

Items	F1	F2	F3
PFC_1	0.798		
PFC_2	0.824		
PFC_3	0.604		
PFC_4	0.429		
PFC_5	0.658		
<hr/>			
EFC_1		0.551	
EFC_2		0.779	
EFC_3		0.646	
EFC_4		0.526	
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LCR_1			0.622
LCR_3			0.512
LCR_4			0.868
LCR_5			0.592
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Eigenvalue	4.82	2.19	1.65
Variance	26.63%	11.18%	9.95%
Items deleted	Item not deleted	EFC_5	LCR_2

Note: Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization. Total variance: 47.77%, KMO: 0.795, Bartlett test of Sphericity, Chi-square= 943.162, Df= 105, Sig = 0.000.

measure of sampling adequacy (Kaiser, 1974) were employed. The factor analysis was considered appropriate, given that Bartlett's Test of Sphericity is significant at 1% for the factor of coping orientation to problems experienced inventory. Moreover, the KMO indices were 0.795 for COPE

dataset, which exceeded the minimum cut-off point of 0.60; hence, indicating the sampling was adequate and acceptable.

Table 3 shows that all five factors under the socio-cultural adaptation scale (SCAS) explained 54.85% of the total variance with a fixed number of factors

Table 3
Sociocultural Adaptation Scale (SCAS)

Items	F1	F2	F3	F4	F5
AKB1	0.617				
AKB3	0.528				
AKB4	0.815				
AKB7	0.641				
AKB8	0.524				
AKB10	0.674				
APS1		0.569			
APS7		0.665			
APS11		0.709			
APS12		0.821			
APS13		0.818			
APS14		0.790			
APS15		0.625			
APS16		0.631			
AMP1			0.584		
AMP2			0.613		
AMP3			0.489		
AKW1				0.783	
AKW2				0.573	
AKW3				0.591	
AKW5				0.506	
AKW8				0.711	
AKW9				0.674	
ABB1					0.570
ABB3					0.605
Eigenvalue	14.92	2.61	2.25	1.76	1.63
Variance	15.96%	11.06%	10.26%	9.52%	8.05%
Items deleted	AKB2, AKB5, AKB6, AKB9	APS2, APS3, APS4, APS5, APS6, APS8, APS9, APS10	Item not deleted	AKW4, AKW6, AKW7	ABB2

Note: Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization. Total variance: 54.85%, KMO: 0.889, Bartlett test of Sphericity, Chi-square= 3975.294, Df= 820, Sig = 0.000.

of 5. Making friends (AKB) ranked first, explaining 15.96% of the total variance. This was followed by participating in social gatherings (APS), using transportation (AMP), communicating with the national host (AKW), and shopping (ABB), which explained 11.06%, 10.26%, 9.52%, and 8.05% of the total variance, respectively. In order to assess the data EFA, Bartlett's Test of Sphericity and KMO measure of sampling adequacy was employed (Bartlett, 1954; Kaiser, 1974). The factor analysis was considered appropriate, given that Bartlett's Test of Sphericity was significant at $p < 0.05$. Furthermore, the KMO index of 0.889 for the SCAS dataset, surpassing the minimum value of 0.60, which indicated that the sampling was adequate and acceptable. The Principal Axis Factoring (PAF) with varimax rotation is used for the extraction of the factor dimensions from the AKB and APS dimensions of 14 items, and 11 items for the AMP, AKW, and ABB, respectively. Table 3 shows that items of Socio-cultural Adaptation Scale (SCAS) were retained for factor loading ≥ 0.40 , while less than 0.40 were deleted. Stevens (2002) suggested that items with factor loading ≥ 0.40 were acceptable.

For the Psychological Well-Being Scale (PWB), EFA was used to remove items that had low factor loadings, or below 0.40. Tabachnick and Fidell (2007) proposed that the cut-offs point of 0.45 was fair. The Principal Axis Factoring (PAF) extraction with a Varimax rotation method was employed. The PAF with varimax rotation is used for the extraction of the factor autonomy (KPA), environmental mastery (KPS), and personal growth (KPP) with 13 items, and 10 items for the positive relations with others (KPH), purpose in life (KPT) and self-acceptance (KPK), respectively. Table 4 reported that a total of 74.86% variance was extracted using a fixed number of factors of 6 for PWB. Williams et al. (2010) postulated that items with a factor loading of at least 0.40 are acceptable. The data suitability was supported by the significance of Bartlett's Test of Sphericity ($p < 0.05$) and Kaiser-Meyer-Olkin (KMO) index of at least a cut-off point of 0.60 (Tabachnick & Fidell, 2007). Based on the Psychological Well-Being Scale (PWB), the data achieved the KMO index of 0.814 and Bartlett's thresholds ($p = 0.000$). Thus, the sample was adequate and acceptable for EFA.

Table 4
Psychological Well-Being Scale (PWB)

Items	F1	F2	F3	F4	F5	F6
KPA1	0.663					
KPA3	0.523					
KPA4	0.568					
KPA5	0.611					
KPA6	0.552					

Table 4 (continue)

Items	F1	F2	F3	F4	F5	F6
KPS2		0.691				
KPS3		0.503				
KPS5		0.462				
KPS6		0.598				
KPP2		0.616				
KPP3			0.538			
KPP4			0.543			
KPP7			0.548			
KPH2				0.522		
KPH3				0.689		
KPH5				0.793		
KPH6				0.628		
KPT2					0.525	
KPT3					0.544	
KPT5					0.470	
KPK1						0.580
KPK3						0.555
KPK5						0.625
KPK6					0.618	
Eigenvalue	9.25	7.18	2.37	1.90	1.82	1.62
Variance	17.20%	15.46%	14.67%	12.46%	9.42%	8.03%
Items deleted	KPA2, KPA7	KPS1, KPS4, KPS7	KPP1, KPP5, KPP6	KPH1, KPH4, KPH7	KPT1, KPT4, KPT6, KPK7	KPK2, KPK4, KPK7

Note: Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization. Total variance: 74.86%, KMO: 0.814, Bartlett test of Sphericity, Chi-square= 2462.944, Df= 861, Sig = 0.000.

Confirmatory Factor Analysis (CFA)

After conducting the exploratory factor analysis (EFA), the retained items were further assessed to confirm the construct reliability and validity with confirmatory factor analysis (CFA). The use of PLS-SEM techniques in analyzing data is deemed to be more suitable as the numbers of latent variables in the study are more than 6 and/or the numbers of items exceed 50. A model having more than 6 latent variables and/or 50 items is regarded as a complex model,

in which variance-based SEM (PLS-SEM) is compatible with analyzing the data compared to covariance-based SEM (CB-SEM) method (Hair et al., 2017b; Hair et al., 2011). Thus, PLS-SEM technique was applied to conduct the CFA through which constructs' reliability and validity were assessed.

Following the PLS-SEM method, constructs' reliability and convergent validity were evaluated using composite reliability (CR), Cronbach's alpha (CA),

factor loading, and average variance extracted (AVE) (Hair et al., 2017a; Hair et al., 2019). There are four higher-order constructs available in the research model, namely academic stress (ASS), COPE, socio-cultural adaptation (SCAS), and psychological well-being (PWB), which were measured with multiple dimensions. Given the nature of measurement theory of each construct, ASS, COPE, SCAS, and PWB are regarded as higher-order constructs measured by multiple first-order latent variables (Sarstedt et al., 2014). All the measures theories in the theoretical framework are conceptualized as first-order reflective and second-order reflective model. In the PLS-SEM techniques, higher order constructs with reflective measures were evaluated based on the measurement metrics, such as composite reliability (CR), Cronbach's alpha (CA), factor loading, and average variance extracted (AVE) (Hair et al., 2017a; Hair et al., 2019). According to these guidelines, constructs' reliability and validity were assessed using pilot study data. During the pilot study, a total sample of 300 usable responses was obtained of which 125 samples ($n=150$) were used for conforming the constructs' reliability and validity (CFA), while the rest of the sample ($n=150$) was used for EFA purpose.

Measurement models of the theoretical framework were analyzed with SmartPLS3.2.8 following the suggested algorithm criteria (Hair et al., 2017a). ASS construct was assessed for reliability and convergent validity. Results were indicated in Table 5. The CA and CR of the three

first-order reflective dimensions, namely SF, SPK, and SPS, were above the threshold level of >0.70 . Due to the criticism on CA in measuring the reliability of latent variables, CR is highly suggested as a statistical metric to evaluate the reliability of latent constructs (Hair et al., 2014). A CR score of >0.70 indicates a satisfactory level of reliability, whereas >0.60 is also accepted if the study is exploratory in nature. CR scores of the three first-order reflective constructs were above the cut-off values of 0.60 (i.e., SF = 0.895, SPK = 0.817, SPS = 0.924), indicating a satisfactory level. As CR is calculated based on factor loadings, CR is required to be re-calculated once repeated indicator approach is adopted in the second order reflective construct (Hair et al., 2018). Hence, using CR calculator, the resulted score of ASS was also above 0.60 (ASS = 0.872), which exhibits a satisfactory level of constructs reliability. Convergent validity was also assessed using factor loading and average variance extracted (AVE). In general, the recommended value of factor loading is >0.70 ; however, an item with a factor loading of >0.40 can be retained if the AVE meets the cut-off value of >0.50 (Hair et al., 2017a; Hair et al., 2014). Results in Table 5 indicate that the first order constructs SF (AVE = 0.551), and SPS (0.576) exceed the cut-off value of >0.50 ; thus, none of the items was discarded. The resulted AVE of SPK (AVE = 0.433) is below 0.50. Therefore, the item SPK7 (loading = 0.468) is considered to be deleted (Hair et al., 2017a; Hair et al., 2014). After analyzing the measurement

model with the final study, the researcher will take necessary action if the items are required to be deleted. Again, the factor loading (>0.40) and AVE (>0.70) of ASS are all above the cut-off values. Therefore, the reliability and convergent validity of both first order and second order reflective constructs are considered satisfactory based on the pilot study.

Socio-cultural adaptation (SCAS) fulfilled its reliability and validity criteria. As indicated in Table 6, the satisfactory reliability of all the five first order reflective constructs of SCAS is achieved as CR scores are above 0.60. Also, the convergent validity of ABB (AVE = 0.718), AMP (AVE = 0.587), and APS (AVE = 0.628) exceed the cut-off value of >0.50 . At present, the convergent validity of AKB (AVE = 0.462) and AKW (AVE = 0.470) does not meet the standard value; however, with the probably deleted item, the AVE exceeds the benchmark. Overall, the SCAS scale meets the quality standard of reliability (CR = 0.912) and convergent validity (AVE = 0.676), which indicate that SCAS is a reliable and valid construct.

COPE has also fulfilled the satisfactory criteria for its reliability and validity. As indicated in Table 7, the satisfactory reliability of all the three first-order reflective constructs (i.e., EFC, LCR, and PEC) is achieved as CR scores are above 0.60. Among these three dimensions, the convergent validity of LCR (AVE = 0.543) and PEC (AVE = 0.569) exceed the cut-off value of >0.50 . The AVE of EFC (AVE = 0.435) is currently a bit lower than 0.50,

however, with the probably deleted item, the AVE exceeds the benchmark. Overall, the second-order reflective measure of COPE meets the quality standard of reliability (CR = 0.870) and convergent validity (AVE = 0.697), which indicate a reliable and valid construct.

Finally, the reliability and validity of psychological well-being (PWB) were assessed with the quality criteria. As indicated in Table 8, the satisfactory reliability of all the six first-order reflective constructs of PWB is achieved as CR scores are above 0.60. Along with the convergent validity of KPH (AVE = 0.505) and KPT (AVE = 0.531), they exceeded the cut-off value of >0.50 . The other four first-order constructs, namely KPA (AVE = 0.479), KPK (AVE = 0.490), KPP (AVE = 0.450), and KPS (AVE = 0.480) did not meet the standard value of above 0.50; however, with the probably deleted item, the AVE of these four constructs exceeded the benchmark. Overall, the PWB scale met the quality standard of reliability (CR = 0.904) and convergent validity (AVE = 0.612), which indicate that PWB is a reliable and valid construct.

Discriminant validity of the study variables was also assessed based on Fornell-Lacker Criterion (Fornell & Larcker, 1981) and Heterotrait-Monotrait (HTMT) correlation values (Henseler et al., 2015). Based on the Fornell-Lacker Criterion, all the four constructs fulfil the requirement of discriminant validity as AVE scores were higher than the other correlation values in Table 9 (Fornell & Larcker, 1981; Hair et

Table 5
Reliability and convergent validity of academic stress (ASS)

First-order constructs	Second-order	Items/dimensions	Factor loading	Before deleting item			After deleting item		
				Cronbach's Alpha	CR	AVE	Cronbach's Alpha	CR	AVE
SF		SF10	0.761	0.862	0.895	0.551			
		SF3	0.698						
		SF4	0.636						
		SF6	0.801						
		SF7	0.766						
		SF8	0.831						
		SF9	0.683						
									N/A
SPK		SPK2	0.680	0.733	0.817	0.433			
		SPK3	0.798						
		SPK4	0.753						
		SPK5	0.607						
		SPK7	0.468						
		SPK8	0.589						
									0.491
									0.825
SPS		SPS1	0.739	0.908	0.924	0.576			
		SPS11	0.788						
		SPS2	0.745						
		SPS3	0.753						
		SPS4	0.796						
		SPS5	0.762						
		SPS6	0.718						
		SPS7	0.750						
	SPS8	0.774							
Academic Stress (ASS)		SF	0.717	-	0.872	0.696			
		SPK	0.893						
		SPS	0.881						
									N/A

Table 6
Reliability and convergent validity of socio-cultural adaptation (SCAS)

First-order constructs	Second-order	Items/dimensions	Factor loading	Before deleting item			After deleting item		
				Cronbach's Alpha	CR	AVE	Cronbach's Alpha	CR	AVE
ABB		ABB1	0.776	0.622	0.835	0.718			
		ABB3	0.913						
	AKB	AKB1 AKB10 AKB3 AKB4 AKB7 AKB8	0.525 0.706 0.707 0.616 0.733 0.762	0.763	0.836	0.462	0.765	0.842	0.517
AKW		AKW1	0.724	0.773	0.841	0.470	0.764	0.841	0.516
		AKW2	0.653						
		AKW3	0.711						
		AKW5	0.611						
		AKW8	0.690						
		AKW9	0.716						
	AMP	AMP1	0.712	0.652	0.810	0.587			
		AMP2	0.776						
		AMP3	0.808						
APS		APS1	0.453	0.909	0.929	0.628			
		APS11	0.781						
		APS12	0.881						
		APS13	0.875						
		APS14	0.873						
		APS15	0.802						
		APS16	0.797						
	APS7	0.793							
Socio-cultural Adaptation (SCAS)		ABB	0.648	-	0.912	0.676			
		AKB	0.914						
		AKW	0.859						
		AMP	0.768						
		APA	0.894						

Table 7
Reliability and convergent validity of coping

First-order constructs	Second-order	Items/dimensions	Factor loading	Before deleting item			After deleting item			
				Cronbach's Alpha	CR	AVE	Item if deleted	Cronbach's Alpha	CR	AVE
EFC		EFC_1	0.693	0.457	0.704	0.435	EFC4	0.638	0.806	0.583
		EFC_2	0.827							
		EFC_3	0.757							
		EFC_4	0.040							
LCR		LCR_1	0.716	0.718	0.825	0.543				
		LCR_3	0.831							
		LCR_4	0.778							
		LCR_5	0.604							
		PFC_1	0.851	0.805	0.867	0.569				
PFC		PFC_2	0.856							
		PFC_3	0.753							
		PFC_4	0.592							
		PFC_5	0.688							
		Coping								
	EFC		0.900	-	0.87	0.697				
	LCR		0.632							
	PFC		0.939							

Table 8
Reliability and convergent validity of psychological wellbeing (PWB)

First-order constructs	Second-order	Items/ dimensions	Factor loading	Before deleting item			After deleting item				
				Cronbach's Alpha	CR	AVE	Item if deleted	Cronbach's Alpha	CR	AVE	
KPA		KPA1	0.604	0.730	0.820	0.479	KPA1	.701	0.815	0.527	
		KPA3	0.701								
		KPA4	0.709								
		KPA5	0.629								
		KPA6	0.801								
					0.661	0.792	0.505				
KPH		KPH2	0.743								
		KPH3	0.795								
		KPH5	0.367								
		KPH6	0.838								
					0.644	0.785	0.490	KPK1	0.679	0.824	0.610
KPK		KPK1	0.414								
		KPK3	0.728								
		KPK5	0.831								
		KPK6	0.753								
					0.598	0.762	0.450	KPP2	0.567	0.774	0.536
KPP		KPP2	0.516								
		KPP3	0.794								
		KPP4	0.651								
		KPP7	0.693								
					0.644	0.787	0.485	KPS5	0.621	0.799	0.571
KPS		KPS2	0.808								
		KPS3	0.649								
		KPS5	0.549								
		KPS6	0.751								

Table 8 (continue)

First-order constructs	Second-order	Items/dimensions	Factor loading	Before deleting item		Item if deleted	After deleting item	
				Cronbach's Alpha	CR		CR	AVE
KPT		KPT2 KPT3 KPT5	0.619 0.791 0.764	.583	0.771	0.531		
	<i>Psychological wellbeing (PWB)</i>	<i>KPA</i> <i>KPH</i> <i>KPK</i> <i>KPP</i> <i>KPS</i> <i>KPT</i>	0.754 0.808 0.825 0.758 0.849 0.689	-	0.904	0.612		

Table 9

Fornell-Lacker Criterion of discriminant validity

Second-order reflective constructs	ASS	COPE	PWB	SCAS
ASS	0.834			
COPE	0.066	0.835		
PWB	-0.290	0.159	0.782	
SCAS	0.293	-0.184	-0.447	0.822

Note: Diagonal values (Bold) are the square root of AVE and off-diagonals are the correlations

Table 10

HTMT_{0.90} criteria of discriminant validity

Second-order reflective constructs	ASS	COPE	PWB	SCAS
ASS				
COPE	0.289			
PWB	0.385	0.552		
SCAS	0.34	0.336	0.518	

al., 2011). Besides, Table 10 indicates the HTMT ration, as suggested by (Henseler et al., 2015). According to HTMT criterion, a construct co-relation value should be below 0.90 (Gold et al., 2001). Results show that all the constructs correlation values are lower than the threshold level, indicating a satisfactory level of discriminant validity between the constructs (Henseler et al., 2015).

Based on the CFA results, the adapted scale in the research ensures reliability, convergent validity, and discriminant validity in measuring the four studied variables, namely ASS, SCAS, COPE, and PWB (Hair et al., 2017a; Hair et al., 2011; Hair et al., 2014). At this stage, items that were considered to have lower convergent validity scores, based on the results of the pilot study would be removed from the actual research. Overall, the reliability, convergent validity, and discriminant validity of both the first order and second order constructs can be considered satisfactory.

DISCUSSION

The purpose of this study is to identify the effect of academic stress, coping, and socio-cultural adaptation on the psychological well-being of Indonesian students. The result revealed that academic stress, coping, and socio-cultural adaptation had a significant impact on the psychological well-being of Indonesian students. Moreover, the findings support the notion that the students in this study were facing academic stress related to the final grade, excessive homework, term papers, examinations, studying for

exams, waiting for graded tests, pop quizzes, forgotten assignments, incomplete assignments, unclear assignments, announced quizzes, missing classes, unclear course objectives, attending wrong class, late dismissals of class, and arriving late for class. These data can be categorized into psychological stress (Kohn & Frazer, 1986). Psychosocial stress, on the other hand, consists of speaking in class, fast-paced lectures, unprepared to respond to questions, incorrect answers in class, learning new skills, non-native language lectures, boring classes, note-taking in class, and evaluating classmates' work (Kohn & Frazer, 1986).

Indonesian students' coping in this study was characterized by problem-focused coping (PFC) and emotion-focused coping (EFC) strategies, whereby the problem-focused coping is classified as active coping, planning, suppression of competing activities, restraint and instrumental social support. However, emotion-focused coping is more to emotional social support consisting of positive reinterpretation and growth, acceptance, denial and religious coping. These coping are considered to be a positive oriented approach or a positive reinforcement style and in line with a lower level of stress (Gibbons, 2010; Jones & Johnston, 1997; Shikai et al., 2009). Furthermore, another interesting discovery of this research was the three skills employed by Indonesian students to adapt to the social and cultural context of this study. These skills include being good at making new friends, active in social gatherings, and having communication skill with the host country. It was determined that being

good at making new friends is considered being competent in dealing with someone uncomfortable or aggressive. On the other hand, being active in social gatherings refer to individuals attendance at social events or gatherings. Meanwhile, being able to communicate with the host country is ideal as it provides an opportunity to interact with people from different ethnic groups so that that information can be exchanged while gauging significant knowledge in socio-cultural matters.

Finally, this study also revealed that three dimensions were contributing to the psychological well-being of the students. The first dimension incorporates self-determination, independence, and freedom from norms, or commonly referred to as autonomy. The second dimension is a positive attitude toward oneself and past life or referred to as self-acceptance, and the final dimension is a living goal and belief that one's life is meaningful, or in other words, having a purpose in life.

CONCLUSIONS

Considerable insights were obtained from examining the psychological well-being of postgraduate Indonesians students aged ranging from 23 to 47 years old, specifically those who were sponsored by Indonesia Endowment Fund for Education program, particularly in terms of their adaption towards academic stress, coping and social-cultural adaptation. In order to gauge relevant information relating to the research, participants were instructed to answer four different types of Likert-based

questionnaires (ASS, COPE, SCAS, RPWB) via online. This is to allow participants to provide their response towards stressful situation easily.

In short, the evidence from this study suggests that CA and CR of the three first order reflective dimensions, namely SF, SPK, and SPS, were above the threshold level of >0.70 . CR scores of the three first order reflective constructs were above the cut-off values of >0.60 (i.e., SF = 0.895, SPK = 0.817, SPS = 0.924), indicating a satisfactory level. Therefore, the SCAS scale meets the quality standard of reliability (CR = 0.912) and convergent validity (AVE = 0.676), signifying that SCAS is a reliable and valid construct. Next, the second order reflective measure of COPE met the quality standard of reliability (CR = 0.870) and convergent validity (AVE = 0.697), demonstrating that the construct is reliable and valid. Finally, the PWB scale met the quality standard of reliability (CR = 0.904) and convergent validity (AVE = 0.612), suggesting that PWB is a reliable and valid construct. Thus, the dimensions of academic stress, coping and social-cultural adaptation toward the psychological well-being among Indonesian postgraduate students have been identified.

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