

WORK-FAMILY CONFLICT AS A PREDICTOR OF MENTAL HEALTH AMONG LOW-INCOME EARNERS IN MALAYSIAN PUBLIC SECTOR

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Abstract

Low-income earners have always been identified as a group that encounter mental health issue due to interpersonal conflicts. As indicated by numerous studies across disciplines, work-family conflict is found to be one of the important predictors of mental health. However, studies on work-family conflict as predictor of mental health among low-income earners specifically in the Malaysia context remains scarce. Thus, the purpose of the current study was to examine the influence of work-to-family conflict dimensions (i.e., behavior-based conflict time-based conflict and strain-based conflict) on mental health dimensions (i.e., stress, anxiety and depression) among low-income earners working at public sectors. Quantitative and cross-sectional research design were utilized in this study. By using a convenience sampling technique, 265 respondents from eight Johor Local Authorities participated via online survey using Google Form. Data were gathered using demographic and socioeconomic status questionnaires, Work-family Conflict Scale (WFCS) and Depression, Anxiety and Stress Scale (DASS-21). Data preparation was conducted using SPSS Version 26.0 while inferential was performed through SmartPLS Version 3.0 structural equation modeling. This study found that strain-based conflict established significant positive influence on stress, anxiety and depression. Meanwhile, behavior-based conflict was found to significantly predict anxiety and depression only. The findings from this study provide insight to the organization, especially public sector to re-design work in order to enhance mental health well-being among the low-income earners.

Keywords: Low-income earners; Mental health; Public sector; SmartPLS; Work-family conflict

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■ 1.0 INTRODUCTION

The latest five-year developmental plan for year 2016 to 2020 (11th Malaysia Plan) presented by the government of Malaysia revealed an increase of 0.3 million low-income households that make up a total of 2.7 million (Prime Minister Department, 2015) compared to previous developmental plan for year 2011 to 2015 that was 2.4 million low-income households (Prime Minister Department, 2010). This alarming figure requires more concern on the risk factors that result in the rise of total number of low-income households because the situation is getting worse among low-income earners who are facing crisis because of a mismatch between job and family demands particularly during COVID-19 pandemic. As a result of the changing economy, additional needs must be satisfied on a regular basis (Dackehag et al., 2016) which led to a rise in mortality rates and mental health problems (Dackehag et al., 2016; Macintyre et al., 2018). Ping et al. (2021) examined the level of mental health of the Malaysian population revealed 59.2% of Malaysian public suffered from depression, followed by 55.1% and 30.6% of them reported to have anxiety and stress symptoms, respectively. Besides, in a more specific study among low-income households in Malaysia context, they were discovered to encounter with economic strain and emotional stress (Arshat et al., 2018). On that account, the investigation on the antecedent of mental health issues particularly among low-income earners is vital in order to tackle the challenges encountered by low-income earners from work and non-work domains.

Work-to-family conflict is regarded as the antecedent of mental health issues because the role responsibilities of

employees are hindered by the interference of the work roles in addressing the needs of personal life and family which consist of three types of interference, namely behavioral, time and strain interference (Greenhaus & Beutell, 1985). According to a survey (AIA Vitality, 2019), Malaysia's average weekly working hours are 15 hours, which is greater than Hong Kong, Australia and Singapore, and more than half of the Malaysia workforce (53%) reported sleeping less than seven hours each night. Also, at least one form of work-related stress was reported by 51% of Malaysian employees (AIA Vitality, 2019). These interferences at work resulted in difficulties for employees to perform the family roles which subsequently, developed their negative emotional symptoms (Kan & Yu, 2016; Mata & Sen, 2017; Rabenu et al., 2017). If flexible working hours are enforced, it assists in the creation of a compatible life both within and outside of the workplace through boundary management strategies (Bulger et al., 2007). Hence, this study emphasized on three forms of work-to-family conflict and its influence on mental health dimensions of low-income earners.

As a consequence, the examination on the potential predictor of work-to-family conflict on mental health is vital because there is a great potential for managers and human resource practitioners of the Malaysian public sectors to develop effective interventions that can promote positive mental health of low-income earners in organizations and subsequently assist the employees' mental resilience. Furthermore, research on the relationship between work-to-family conflict and mental health issues, particularly among low-income earners working at Malaysian public sectors remains scarce. Thus, the purpose of this study is to narrow the gap by examining the work-to-family conflict experienced by low-income earners and its influence on their mental health.

■ 2.0 LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

■ 2.1 The Concept of Work-to-Family Conflict

This study focuses solely on work-to-family direction due to the nature of work that more interfere in the family domain, especially from the collectivistic culture like Malaysia. When job experiences and responsibilities interfere with family life, it is referred to work-to-family conflict. An unanticipated late-day meeting, for example, may hinder parents from picking up their children from schools. Three dimensions of work-to-family conflicts examined in this study were behavioral-based conflict, time-based conflict and strain-based conflict as introduced by Greenhaus and Beutell (1985). Behavior-based conflict is described as incapability to adapt with work behavior that lead to difficulty in meeting the demands as family roles. Besides, employees who are unable to spend time with their families experience time-based conflict due to more time allocation for work matters while strain-based conflict occurs when employees encounter with occupational stressors that makes it difficult to perform as family roles. Meanwhile, stress, anxiety and depression are three emotional symptoms that were highlighted in the current study because they are identified as the influential outcomes due to the impact of work-to-family conflict. Therefore, the current study aims to examine the low-income earners' work-to-family conflicts because the inter-role conflicts are associated to the interference in the form of behavioral, time and strain that eventually determine their mental health states.

■ 2.2 The Concept of Mental Health

The presence of emotional symptoms arising from psychological strain reactions involving hormonal changes is characterized as mental health (Lobel & Dunkel-schetter, 1990) and as emotional disturbances induced by situations that are indicated by depleted personal resources to meet contextual demands (Altaf et al., 2014). Mental health, according to Lovibond and Lovibond (1995), can be categorized into three types, namely stress, anxiety and depression. Stress is defined as a non-specific response to any stimulus that is distinct with emotional arousal (Selye, 2013) and is caused by a contradiction between demands and resources (Lal & Singh, 2015). Besides, anxiety is regarded as one of the psychiatric disorders with the symptoms of overwhelming worry and fear (Remes et al., 2016). However, Swift et al. (2014) claimed that anxiety can serve as either pleasant emotional state to protect the body from perceived threats or poor emotional response that can enhance body's arousal negatively. In addition, depression is also regarded as one of the psychiatric disorders with more severe emotional symptoms such as negative mood, low energy level and self-worth as well as loss of pleasure and interest (Kumar et al., 2012). This study's context operationalized stress as mind and bodily response including emotional strain, anger and sensitivity, anxiety is regarded as sense of fear, muscular tension and nervousness while poor interest in various activities and a low level of mood are the operationalization for depression.

■ 2.3 Conceptual Framework

The research study's conceptual framework is visualized in Figure 1. Work-to-family conflict and mental health were the two main variables of the conceptual framework. Work-to-family conflict consisted of three dimensions that are behavior-based conflict, time-based conflict and strain-based conflict and mental health also comprised of three dimensions, namely stress, anxiety and depression. Thus, this study examined nine direct effects including the relationships between behavior-based conflict, time-based conflict and strain-based conflict of low-income earners in

Malaysian public sectors with their stress, anxiety and depression.

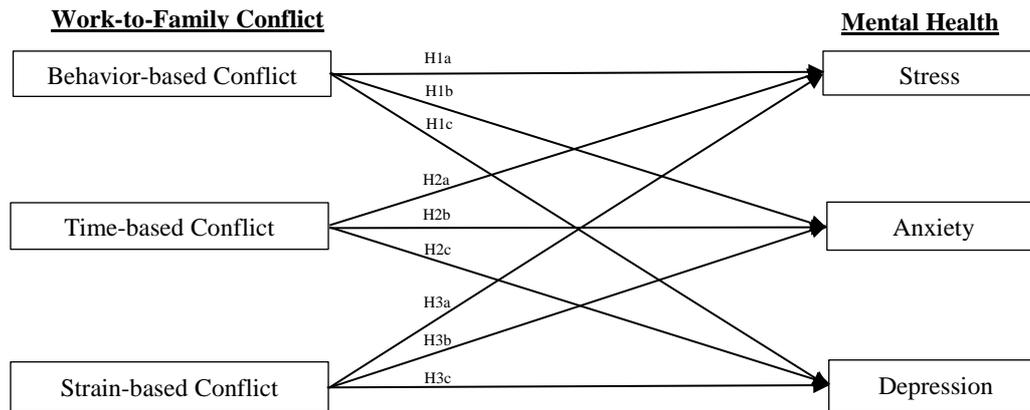


Figure 1. Conceptual Framework

2.4 Relationship between Work-to-Family Conflict and Mental Health

Employees across diverse organisations may now work and operate their businesses from anywhere and at any time due to the growing use of portable digital technology and also in response to government’s order of work-from home implementation (International Labour Organization, 2020). Work-related activities such as replying to phone calls, messages, and emails dominate non-work time during weekends and vacations as boundaries have been increasingly blurred in our modern day as reported by Lahti (2017). The work-life balance of employees has been proven to be negatively influenced by job stressors in the workplace (Kalpna & Malhotra, 2019) which lack of work-life balance results in the rise of issues on conflict between work and family (Adisa et al., 2016). Work-family conflict is an area of study that is rapidly evolving, especially in light of the recent health crises in the composition of work and non-work domains. On the report of Kan and Yu (2016), growing job demands and the new normal of working urge employees to complete tasks irrespective of time or location, and this overcommitment issue has positively affected mental health issues. According to research (Numazirah J. et al., 2015; Rabenu et al., 2017), greater levels of work-to-family conflict positively affected employees’ stress levels. Meanwhile, research study on the association between work-to-family conflict and depression revealed that higher depressive symptoms were positively associated by the experience of inter-role conflict in performing family and job responsibilities (Mata & Sen, 2017). Similarly, Hao et al. (2015) found that the employees experienced depressive symptoms as a result of workplace conflict that interfered with their personal lives. These findings apply to Malaysian employees across various organisations who have been discovered to be in a poor emotional state, such as burnout and high emotional exhaustion (Boonratana & Gharleghi, 2015; Khairun Nisa & Dewi, 2016; Khoo et al., 2017).

Piko and Mihalka (2018) recommended that emotional and behavioural interventions at both individual and organisational levels are vital because. The degree of work-family conflict is related to the employment and health of employees, as discovered by previous studies on the positive relationship between work-family conflict and mental health. However, empirical research on the degree to which job responsibilities affects family life in terms of behavioural, time and strain interference among low-income earners is limited. Although the review on the effect of overall work-family conflict on mental health is unquestionably important, Greenhaus and Beutell (1985) recommend that the three primary types of work-family conflict, namely behavior-based conflict, time-based conflict and strain-based conflict should be further investigated. Despite a dual direction of work-family conflict was proposed including work-to-family and family-to-work conflict (Greenhaus & Beutell, 1985), this study emphasized solely on the work-to-family conflict direction because of the reported long working hours by Malaysian employees and 51% of them claimed to experience at least one form of work-related stress (AIA Vitality, 2019). Therefore, by examining the effect of work-to-family conflict on low-income earners' mental health, this research outcomes able to fill the research gap caused by lack of related literatures. Consequently, based on prior literatures, the following hypotheses on the direct effects of work-to-family conflict dimensions experienced by low-income earners on their mental health states were evaluated:

- Hypothesis: Work-to-family conflict significantly and positively influence mental health.
- H1a: Behavior-based conflict significantly and positively influence stress.
- H1b: Behavior-based conflict significantly and positively influence anxiety.
- H1c: Behavior-based conflict significantly and positively influence depression.
- H2a: Time-based conflict significantly and positively influence stress.

- H2b: Time-based conflict significantly and positively influence anxiety.
- H2c: Time-based conflict significantly and positively influence depression.
- H3a: Strain-based conflict significantly and positively influence stress.
- H3b: Strain-based conflict significantly and positively influence anxiety.
- H3c: Strain-based conflict significantly and positively influence depression.

■ 3.0 METHODOLOGY

■ 3.1 Research Design

Quantitative research was utilized as the research design for this study and a cross-sectional study design was employed which the data is gathered and measured at a single point in time (Shaughnessy et al., 2015). The utilization of self-administered questionnaires allows the researchers to have broader insight of the respondents (Sekaran, 2003) in investigating the associations of work-to-family conflict dimensions and mental health dimensions of low-income earners.

■ 3.2 Population and Sample Size

Low-income earners of administrative officers working at eight Johor Local Authorities who earn monthly net household income of RM4,849 were the study sample which was chosen using convenience sampling technique due to the unavailability of obtaining the total number of low-income earners in public sectors. Sixteen Johor Local Authorities were selected to conduct the online survey because public sectors' employees work eight hours daily in average with no opportunity to claim overtime pay (Institute of Labour Market Information and Analysis, 2016). The person in charge particularly the human resource manager was contacted over the phone and email to explain the research topic and aim of the survey clearly. However, only eight out of 16 Johor Local Authorities allowed the researchers to collect data. The online survey through Google Form was used because in response to the COVID-19 pandemic, the organisations required the staffs to work from home. The online survey link was sent to the person in charge to be given to the administrative officers working in the organizations. According to G-Power calculation, the study requires a minimum sample size of 166 and a total of 265 completed questionnaires were successfully collected.

■ 3.3 Research Instruments

The mental health of low-income earners was assessed by mental health self-reported instrument, Depression, Anxiety and Stress Scale (DASS-21) (Lovibond & Lovibond, 1995). This instrument consists of 21 items on a four-point Likert scale that was used to assess respondents' negative emotional states including stress (e.g., I felt that I was rather touchy), anxiety (e.g., I felt scared without any good reason) and depression (e.g., I felt that life was meaningless). The response options were 0 (never), 1 (rarely), 2 (often) and 3 (always). There are five emotional states levels comprising of normal, mild, moderate, severe and extremely severe which were determined by the total score for each dimension and then need to be multiplied by two. Cronbach's alpha for this scale ranged from 0.873 to 0.898, indicating that this scale has good psychometric qualities.

Work Family Conflict Scale (WFCS) by Carlson et al. (2000) was used to assess work-to-family conflict of low-income earners. This scale consists of nine items which three items each evaluate three types of work-to-family conflicts that are behavior-based conflict (e.g., Behavior that is effective and necessary for me at work would be counterproductive at home), time-based conflict (e.g., The time I must devote to my job keeps me from participating equally in household responsibilities and activities) and strain-based conflict (e.g., I am often so emotionally drained when I get home from work that it prevents me from contributing to my family). The response options were ordered in a five-point Likert scale from 1 (Strongly disagree) to 5 (Strongly agree) with the higher overall score for each type of work-to-family conflict indicates greater work-to-family conflict. Coefficient reliability of this scale for work-to-family conflict based on behavior, time and strain by Loscalzo et al. (2019) was 0.860, 0.890 and 0.860 and this study also shows sufficient reliability that were 0.748, 0.906 and 0.877.

■ 3.4 Data Analysis

In preparing the data, data screening was carried out in order to ensure the study findings are more accurate and meaningful (Fidell & Tabachnick, 2003). The online survey medium Google Form collected 265 responses in total. The data was converted to an Excel file and downloaded, after which it was saved as a csv format for data preparation in SPSS Version 26.0. Firstly, there was no missing values and irrelevant responses identified in the data. Also, the findings of Mahalanobis distance test (D2) demonstrated that there was no problem with outliers or extreme data points because all chi-squared probability values were larger than 0.001 (Fidell & Tabachnick, 2003). Additionally, based on the SPSS output as shown in Table 1, the highest absolute value of skewness and kurtosis was 1.237 and 1.945,

respectively, indicating a normal distribution of the study data because the skewness and kurtosis absolute values were within the range -3 and +3 (Hair et al., 2010).

Table 1. Skewness and Kurtosis of Work-to-Family Conflict and Mental Health

Dimensions	Skewness	Kurtosis
Work-to-Family Conflict	.277	.314
Time-based conflict	.323	.064
Strain-based conflict	.384	-.106
Behavior-based conflict	.064	.186
Mental Health	1.050	1.098
Stress	.840	.302
Anxiety	.992	.676
Depression	1.237	1.945

Partial least squares (PLS) path modelling, also known as partial least squares structural equation modelling (PLS-SEM) was used as the statistical approach to evaluate the developed nine hypotheses. Steps and the evaluation criteria in assessing research model using partial least squares structural equation modelling is indicated in Sarstedt et al. (2014). PLS-SEM is a statistical analysis approach in quantitative research method used to analyse and explain multiple relationships simultaneously, predict the model based on empirical evidences and capable of dealing with both reflective and formative constructs (Hair et al., 2017). However, this study only included reflectively measured constructs because both work-to-family conflict and mental health are manifested by the indicators or items (Hair et al., 2017). Therefore, PLS-SEM with the SmartPLS 3.0 was employed in assessing the positive relationship between work-to-family conflict based on behavior, time and strain, and mental health dimensions including stress, anxiety and depression among low-income earners in public sectors.

4.0 RESULTS

4.1 Demographic Profile of Respondents

The summary of demography profile of 265 respondents in this study is shown in Table 2 who are classified as low-income earners and working at eight different Johor Local Authorities. Among these respondents, there were 183 (69.1%) males and 82 females (30.9%). The age limit set in this study was from 21 years to 60 years with one fourth of the respondents were between 31 to 35 years ($n = 73$, 27.5%). Besides, 117 (44.2%) respondents reported to have the Sijil Pelajaran Malaysia (SPM) or Sijil Tinggi Persekolahan Malaysia (STPM) as the highest educational attainment. Regarding the net household income earned per month, the income range of 76 (28.7%) respondents were RM2,000 to RM2,999 followed by 70 (26.4%) of them were RM1,000 to RM1,999.

Table 2: Summary of Respondents Demography

Respondent	Frequency (<i>f</i>)	Percentage (%)	
Gender	Male	183	69.1
	Female	82	30.9
Age (years)	21 – 25	27	10.2
	26 – 30	61	23.0
	31 – 35	73	27.5
	36 – 40	42	15.8
	41 – 45	14	5.3
	46 - 50	23	8.7
	51 - 55	20	7.5
	56 – 60	5	1.9
Education Level	SPM/ STPM	117	44.2
	Malaysian Skills Certificate	29	10.9
	Diploma	76	28.7
	Bachelor's Degree	38	14.3
	Postgraduate	5	1.9
Net Household Income per Month	< 1,000.00	7	2.6
	1,000 – 1,999	70	26.4
	2,000 – 2,999	76	28.7
	3,000 – 3,999	54	20.4
	4,000 – 4,849	58	21.9

4.2 Descriptive Analysis

Table 3 provides details on descriptive analysis of low-income earners' work-to-family conflict dimensions including mean, minimum dan maximum values. All work-to-family conflict dimensions have a mean value between 2.37 of time-based conflict to 2.58 of behavior-based conflict, demonstrating the low-income earners encountered the highest work-to-family conflict based on behavior.

Table 3. Descriptive Analysis of Work-to-Family Conflict among Low-income Earners

Dimensions	Mean	Minimum	Maximum
Behavior-based Conflict	2.58	1	5
Time-based Conflict	2.37	1	5
Strain-based Conflict	2.46	1	5

Table 4 shows the frequency and percentage of mental health dimensions such as stress, anxiety and depression among low-income earners on five severity scales that inclusive of normal, mild, moderate, severe and extremely severe. The three emotional states was categorized using the proposed cut-off scores by Lovibond and Lovibond (1995). Based on the reported data, only 43 (16.2%) of the respondents had normal stress with the most prevalent was mild (n = 69, 26.0%) and severe level (n = 69, 26.0%). In term of anxiety and depression, none of the respondents reported to have normal and mild level and the category with the highest number of respondents for anxiety was extremely severe level (n = 150, 56.6%) while depression was moderate level (n = 158, 59.6%). Hence, descriptively, data reveals that low-income earners at Malaysia public sectors suffered from anxiety the most followed by depression and stress.

Table 4. Prevalence of Mental Health among Low-income Earners

Categories	Stress	Anxiety	Depression
Normal	43 (16.2%)	-	-
Mild	69 (26.0%)	-	-
Moderate	63 (23.8%)	60 (22.6%)	158 (59.6%)
Severe	69 (26.0%)	55 (20.8%)	48 (18.1%)
Extremely Severe	21 (7.9%)	150 (56.6%)	59 (22.3%)

■ 4.3 Assessment of Measurement Model

The assessment of measurement model included reliability (i.e., composite reliability and Cronbach's Alpha), convergent validity (i.e., outer loading and Average Variance Extracted) and discriminant validity (i.e., Fornell-Larcker criterion and Heterotrait-monotrait ratio of correlation). The reliability is satisfactory when composite reliability and Cronbach's Alpha should be greater than value 0.7 that imply the closer the value to 1, the instrument is more reliable and has a high internal consistency (Hair et al., 2011). Hair et al. (2011) also suggest that the convergent validity assessed by Average Variance Extracted (AVE) and outer loading is achieved when the value is greater than 0.5 and 0.7, respectively. Besides, for discriminant validity assessment, the square root of AVE should be greater than inter-construct correlations for Fornell-Larcker criterion (Fornell & Larcker, 1981) and the cut-off values for Heterotrait-monotrait ratio of correlation should be lower than 0.9 (Henseler et al., 2015).

Composite reliability for all the constructs ranged from 0.860 to 0.940 and the Cronbach's Alpha of the constructs used in this study also ranged from 0.748 to 0.906, indicating satisfactory reliability (Table 5). Besides, the AVE values for all the constructs were beyond the minimum threshold value of 0.5 ranging from 0.568 to 0.840 which showed that the measures are able to explain for more than 50% of the variances of constructs. Likewise, all the constructs' outer loadings were greater than the cut-off value of 0.7, implying the constructs in this study had adequate convergent validity.

Table 5. Construct Reliability and Validity

Constructs	Items	Outer Loading	AVE	Composite Reliability	Cronbach's Alpha
Behavior-based Conflict	BBC1	0.901	0.676	0.860	0.748
	BBC2	0.660			
	BBC3	0.883			
Time-based Conflict	TBC1	0.889	0.840	0.940	0.906
	TBC2	0.942			
	TBC3	0.918			
Strain-based Conflict	SBC1	0.855	0.803	0.924	0.877
	SBC2	0.905			
	SBC3	0.926			
Stress	S1	0.768	0.598	0.912	0.886

	S2	0.704			
	S3	0.797			
	S4	0.823			
	S5	0.880			
	S6	0.782			
	S7	0.632			
	A1	0.684			
	A2	0.686			
	A3	0.795			
Anxiety	A4	0.792	0.567	0.901	0.873
	A5	0.788			
	A6	0.797			
	A7	0.715			
	D1	0.734			
	D2	0.762			
	D3	0.788			
Depression	D4	0.797	0.617	0.919	0.898
	D5	0.829			
	D6	0.792			
	D7	0.793			

On the contrary, the assessment criteria for discriminant validity is based on Fornell and Larcker (1981) and Henseler et al. (2015) as shown in Table 6. The inter-construct correlations and the values of the square root of AVE which demonstrated that all the diagonal values are larger than the correlation values among constructs, implying acceptable discriminant validity except for mental health indicators. In addition, all HTMT values followed the maximum threshold value of 0.9 that indicate the establishment of discriminant validity except for mental health indicators. However, stress, anxiety and depression were retained because these three indicators of mental health were the three negative emotions that share common traits of emotional symptoms (Park et al., 2020).

Table 6. Discriminant Validity Results

Fornell-Larcker Criterion	BBC	TBC	SBC	S	A	D
Behavior-based Conflict (BBC)	0.822					
Time-based Conflict (TBC)	0.551	0.917				
Strain-based Conflict (SBC)	0.630	0.717	0.896			
Stress (S)	0.330	0.321	0.434	0.773		
Anxiety (A)	0.340	0.293	0.390	0.882	0.753	
Depression (D)	0.391	0.420	0.499	0.849	0.833	0.786
Heterotrait-monotrait (HTMT) Ratio of Correlations	BBC	TBC	SBC	S	A	D
Behavior-based Conflict (BBC)						
Time-based Conflict (TBC)	0.665					
Strain-based Conflict (SBC)	0.770	0.800				
Stress (S)	0.399	0.338	0.481			
Anxiety (A)	0.405	0.312	0.427	0.995		
Depression (D)	0.456	0.445	0.536	0.947	0.938	

■ 4.4 Assessment of Structural Model

The next step for the assessment of structural model is to the predictor constructs' collinearity using the variance inflation factor (VIF) through SmartPLS Version 3.0 after all the assessment of measurement model met the evaluation criteria (Hair et al., 2017). Thus, based on the threshold value below than 9.0 as suggested by Tabachnick and Fidell (2007), Table 7 shows no existence of collinearity because the VIF values for all the exogenous or predictor constructs were much below the threshold of 9.0.

Table 7. Collinearity Values of Exogenous Constructs

Exogenous Constructs	BBC	TBC	SBC
Behavior-based Conflict (BBC)	1.715	1.715	1.715
Time-based Conflict (TBC)	2.131	2.131	2.131
Strain-based Conflict (SBC)	2.459	2.459	2.459

In PLS-SEM, the validity of structural model as illustrated in Figure 2 is evaluated through the strength of regression coefficient (β), t-value ($t > 1.645$, one-tailed), p-value ($p < 0.05$) and effect size of exogenous construct on the

endogenous construct and the bootstrapping results are shown in Table 8. Behavior-based conflict had positive and significant effect on anxiety ($\beta = 0.157$; $t = 2.182$; $p = 0.015$) and depression ($\beta = 0.110$; $t = 1.826$; $p = 0.034$), but had insignificant effect on stress with a standardized coefficient of 0.095, $t = 1.407$ and $p = 0.080$, suggesting the hypotheses H1b: Behavior-based conflict significantly and positively influence anxiety and H1c: Behavior-based conflict significantly and positively influence depression were supported while H1a: Behavior-based conflict significantly and positively influence stress was rejected. The results also found that time-based conflict had insignificant effect on stress ($\beta = 0.000$; $t = 0.006$; $p = 0.498$), anxiety ($\beta = -0.004$; $t = 0.052$; $p = 0.479$) and depression ($\beta = 0.105$; $t = 1.303$; $p = 0.097$) that indicate the hypotheses H2a: Time-based conflict significantly and positively influence stress, H2b: Time-based conflict significantly and positively influence anxiety and H2c: Time-based conflict significantly and positively influence depression were rejected. However, hypotheses H3a: Strain-based conflict significantly and positively influence stress, H3b: Strain-based conflict significantly and positively influence anxiety and H3c: Strain-based conflict significantly and positively influence depression were found to be supported due to the significant effect of strain-based conflict on stress ($\beta = 0.374$; $t = 4.468$; $p = 0.000$), anxiety ($\beta = 0.294$; $t = 3.255$; $p = 0.000$) and depression ($\beta = 0.354$; $t = 4.614$; $p = 0.000$).

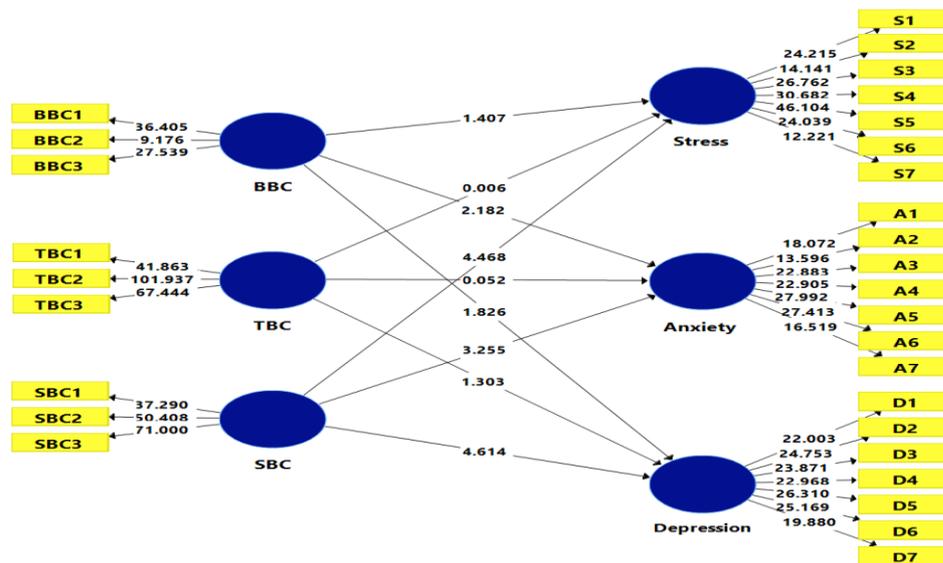


Figure 2. Results of Hypotheses Testing

Table 8. Structural Path Model and Effect Size Results

Path	β	t-value	p-value	Results	f^2
H1a: Behavior-based conflict \rightarrow Stress	0.095	1.407	0.080	Not Supported	0.007
H1b: Behavior-based conflict \rightarrow Anxiety	0.157	2.182	0.015	Supported	0.017
H1c: Behavior-based conflict \rightarrow Depression	0.110	1.826	0.034	Supported	0.010
H2a: Time-based conflict \rightarrow Stress	0.000	0.006	0.498	Not Supported	0.000
H2b: Time-based conflict \rightarrow Anxiety	-0.004	0.052	0.479	Not Supported	0.000
H2c: Time-based conflict \rightarrow Depression	0.105	1.303	0.097	Not Supported	0.007
H3a: Strain-based conflict \rightarrow Stress	0.374	4.468	0.000	Supported	0.070
H3b: Strain-based conflict \rightarrow Anxiety	0.294	3.255	0.001	Supported	0.042
H3c: Strain-based conflict \rightarrow Depression	0.354	4.614	0.000	Supported	0.069

The analytical power of the structural model in PLS analysis is evaluated by determination of coefficient (R^2) through the model's predictive accuracy (Hair et al., 2014). In an iterative process, the analytical power of each exogenous construct and their associated endogenous construct was determined by removing each endogenous construct. Further assessment of the structural model's predictive accuracy is through assessing the predictive relevance (Q^2) which is performed using blindfolding procedure in SmartPLS (Hair et al., 2014). Based on the R^2 and Q^2 results as shown in Table 9, the effect size of endogenous constructs stress $R^2 = 0.194$ with a Q^2 value of 0.107 was moderate, anxiety with $R^2 = 0.167$ and $Q^2 = 0.084$ was moderate as well as depression with $R^2 = 0.264$ with a Q^2 value of 0.146 was substantial. In compliance with the recommendation from Cohen (1988) on the acceptance level of R^2 , 0.26, 0.13 or 0.02 that is classified as substantial, moderate and weak, respectively while Hair et al. (2014) suggests a threshold value of greater than zero for Q^2 . Following the blindfolding procedure, predictive relevance for the endogenous constructs in

the structural model were supported because all the predictive relevance values were significantly greater than zero.

Table 9. Results of R2 and Q2

Endogenous Constructs	Determination of Coefficient		Predictive Relevance	
	R ²	Accuracy Level	Q ²	Predictive Results
Stress	0.194	Moderate	0.107	Yes
Anxiety	0.167	Moderate	0.084	Yes
Depression	0.264	Substantial	0.146	Yes

■ 5.0 DISCUSSION AND CONCLUSION

Based on the data analysis performed, findings demonstrated that only five out of nine hypotheses on the relationship between three work-to-family conflict dimensions based on behavior, time and strain, and three mental health dimensions (i.e., stress, anxiety and depression) among low-income earners were supported. For the relationship between behavior-based conflict and three mental health dimensions, behavior-based conflict was positive significantly influenced anxiety and depression while stress was found to exhibit insignificant influence by behavior-based conflict. Surprisingly, the relationship between time-based conflict with stress, anxiety and depression revealed insignificant findings. On the contrary, all mental health dimensions of low-income earners were positively and significantly influenced by strain-based conflict.

The findings on the direct effect of behavior-based conflict showed positive and significant effect on anxiety and depression among low-income earners meanwhile, stress was found to not significantly influence by behavior-based conflict. Based on the descriptive analysis, the low-income earners reported to have normal stress level while surprisingly, the prevalence of anxiety and depression range from moderate to extremely severe level. Additionally, the analysis demonstrated only minor difference which the influence of behavior-based conflict on depression is larger as compared to the influence of behavior-based conflict on anxiety. Behavior-based conflict is a type of spillover in which work-related behaviour patterns are incompatible with family-related behaviours, with the further constraint that the transferred behaviours hinder the performance of family role (Edwards et al., 2000). Since the employees' work and family routines have changed during the COVID-19 pandemic, the adaptation to the new normal has affected the employees' productivity behaviors and majority of them reported to still be suffering with the constraints of working from home (Menon, 2021). Also, according to Menon (2021), 74% of Malaysian employees have experienced anxiety while 67% and 58% have experienced stress as a result of changes in work and organisational routines, and as a result of family pressure, respectively. Thus, due to the prevalence of work-to-family conflict based on behaviour, low-income earners in Johor Local Authorities are postulated to deal with elevated emotional states, notably anxiety and depression.

Besides, the direct effect of time-based of low-income earners on all three mental health dimensions including stress, anxiety and depression demonstrated insignificant effect. Based on general finding from prior study, employees who have work-family conflict are more susceptible to have depressed symptoms (Hao et al., 2015), however the contrast finding can be explained through time-related interference such as total of working hours and shift work that contribute to work-to-family conflict (Greenhaus & Beutell, 1985). Employees are shown to have difficulty performing family roles when confronted with time interference at work, which including total working hours worked per week, amount and frequency of overtime and irregularity of shift work (Hsu et al., 2019). Following this study that examined the influence of time-based conflict on mental health issues in the context of low-income earners working at public sectors, they have more time to meet the family demands because public sector employees have regular working hours without overtime and shift work. On that account, the nature of work as public sector employees is the rationale of the insignificant findings between work-to-family conflict based on time of low-income earners at Johor Local Authorities with their experience of stress, anxiety and depression

Furthermore, the study findings demonstrated significant relationship between strain-based conflict and all dimensions of mental health, implying stress, anxiety and depression were experienced by low-income earners when strain-based conflict emerged. Strain-based conflict arises when participation in one domain produces physical or psychological strain that interferes participation in another domain (Edwards et al., 2000). These significant findings support the pioneers of work-to-family conflict outcomes, Greenhaus & Beutell (1985) who discovered that work role incompatibility influences performance as a family role in the family domain through role conflict and ambiguity, and also in line with the research outcome from prior scholar, Mostert (2008) who revealed that employees have higher emotional states as a result of increased work-to-family strain interference. Owing to the government's order for employees to work from home due to the COVID-19 outbreak globally, employees experience challenges such as limited workstation set-up, less ergonomically-friendly equipment and connectivity problems which led to struggle in balancing between job demand and family demand (International Labour Organization, 2020). As reported by Marimuthu and Vasudevan (2020), approximately 80% of Malaysia employees were psychologically affected as a result of adapting with the challenges of new norm. Thus, the significant influence of work-to-family conflict based on strain on stress, anxiety and depression among low-income earners is due to the struggles in adapting with new working

pattern during the health pandemic.

Finally, data pertaining to research objective developed in the current study revealed mixed findings on the relationship between work-to-family conflict dimensions and mental health dimensions among low-income earners in Malaysian public sectors. First, strain-based conflict positively and significantly influenced stress, anxiety and depression. In contrast to strain-based conflict, time-based conflict showed insignificant influence on stress, anxiety and depression. However, for the relationship between behavior-based conflict and mental health dimensions, this form of conflict had positive and significant influence on anxiety and depression but demonstrated insignificant influence on stress. As a result, strain-based conflict had a stronger effect on mental health of low-income earners in comparison to behavior-based conflict and time-based conflict.

■ 5.1 Research Implications

Regarding research implications, the research findings provide beneficial implications for both academics and human resource practitioners. On the academic front, the current study adds to the existing body of knowledge, specifically in regard to low-income earners' mental health by contributing significantly to the literatures of human resource management, and industrial and organizational psychology to the public sectors in developing countries of Asia and also by providing empirical evidences on the direct relationship between work-to-family conflict dimensions and mental health dimensions among low-income earners in public sectors. Meanwhile, in managerial aspect, the findings indicating depression as the major mental health issue suffered by low-income earners encourage the human resource practitioners and top management to formulate and expedite the effective strategies such as conducting proper training in prioritizing demands and responsibilities between job dan family domains in order to foster low-income earners' positive emotions.

■ 5.2 Limitations and Future Research

In conducting the study, there were several limitations that should be highlighted in the future studies. First, the data was collected once only because this study employed cross-sectional study. Hence, in order to enhance the generalization of the findings, future research should investigate the relationships indicated in this study by conducting longitudinal study and employing a probability sampling approach. Secondly, survey questionnaire was the only data collection method utilized in this study. Thus, diary study and mixed-method study are recommended to be utilized in any future research. Finally, data collection focusing on only public sectors was another limitation in this study. For that reason, data collection is suggested to be extended to private sectors in order to examine the differences of inter-role conflicts between public and private sectors that affect emotional states of low-income earners.

ACKNOWLEDGEMENT

Funder by the Ministry of Higher Education under FRGS, Registration Proposal No: FRGS/1/2019/SS05/UTM/02/4

REFERENCES

- Adisa, T., Osabutey, E., & Gbadamosi, G. (2016). Understanding the causes and consequences of work-family conflict: An exploratory study of Nigerian employees. *Employee Relations: The International Journal*, 770–788. <https://doi.org/10.1108/ER-11-2015-0211>
- AIA Vitality. (2019). Malaysia's healthiest workplace. <https://healthiestworkplace.aia.com/malaysia/eng/>
- Altaf, M., Noushad, S., Ahmed, S., Azher, S. Z., & Tahir, S. M. (2014). Emotional stress estimation in general population. *International Journal of Endorsing Health Science Research (Ijehsr)*, 2(1), 34. <https://doi.org/10.29052/ijehsr.v2.i1.2014.34-37>
- Arshat, Z., Pai, F. S., & Ismail, Z. (2018). Keluarga B40: Tekanan dan Kekuatan B40 Family: Stress and Strength. *Journal of Advanced Research in Social and Behavioural Sciences Journal Homepage*, 10(1), 91–102. www.akademiabaru.com/arsbs.html
- Boonratana, V., & Gharlegghi, B. (2015). Determinants of the job burnout in public sector employees in Malaysia. *International Journal of Business and Management*, 10(6), 208–215. <https://doi.org/10.5539/ijbm.v10n6p208>
- Bulger, C. A., Matthews, R. A., & Hoffman, M. E. (2007). Work and personal life boundary management: Boundary strength, work/personal life balance, and the segmentation-integration continuum. *Journal of Occupational Health Psychology*, 12(4), 365–375. <https://doi.org/10.1037/1076-8998.12.4.365>
- Carlson, D. S., Kacmar, K. M., & Williams, L. J. (2000). Construction and initial validation of a multidimensional measure of work-family conflict. *Journal of Vocational Behavior*, 56(2), 249–276.

<https://doi.org/10.1006/jvbe.1999.1713>

- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Lawrence Erlbaum Associates.
- Dackehag, M., Ellegård, L., Gerdtham, U.-G., & Nilsson, T. (2016). Day-to-day living expenses and mental health. *Working Papers*, 19, 1–35.
- Edwards, J. R., Rothbard, N. P., & Edwards, J. R. (2000). Mechanisms linking work and family: Clarifying the relationship between work and family constructs. *The Academy of Management Review*, 25(1), 178–199. <https://doi.org/https://doi.org/10.2307/259269>
- Fidell, L. S., & Tabachnick, B. G. (2003). Preparatory data analysis. In J. A. Schinka, W. F. Velicer, & I. B. Weiner (Eds.), *Handbook of Psychology* (pp. 115–142). John Wiley & Sons, Inc.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.20546/ijcrar.2016.409.006>
- Greenhaus, J. H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. *The Academy of Management Review*, 10(1), 76. <https://doi.org/10.2307/258214>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis*. Prentice Hall.
- Hair, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). SAGE Publications Inc.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19(2), 139–152. <https://doi.org/10.2753/MTP1069-6679190202>
- Hair, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106–121. <https://doi.org/10.1108/EBR-10-2013-0128>
- Hao, J., Wu, D., Liu, L., Li, X., & Wu, H. (2015). Association between work-family conflict and depressive symptoms among Chinese female nurses: The mediating and moderating role of psychological capital. *International Journal of Environmental Research and Public Health*, 12, 6682–6699. <https://doi.org/10.3390/ijerph120606682>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Hsu, Y., Bai, C., Yang, C., Huang, Y., Lin, T., & Lin, C. (2019). Long hours' effects on work-life balance and satisfaction. *BioMed Research International*, 1–8. <https://doi.org/https://doi.org/10.1155/2019/5046934>
- Institute of Labour Market Information and Analysis. (2016). *Hours of Work*. <https://www.ilmia.gov.my/index.php/en/dashboard-datamart/kilm/indicators/item/hours-of-work>
- International Labour Organization. (2020). *An employers' guide on working from home in response to the outbreak of COVID-19*. https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---act_emp/documents/publication/wcms_745024.pdf
- Kalpna, D., & Malhotra, M. (2019). Relationship of work-life balance with occupational stress among female personnel of Central Industrial Security Force (CISF), India. *International Research Journal of Engineering and Technology (IRJET)*, 6(7), 1380–1387.
- Kan, D., & Yu, X. (2016). Occupational stress, work-family conflict and depressive symptoms among Chinese bank employees: The role of psychological capital. *International Journal of Environmental Research and Public Health*, 13(1), 134. <https://doi.org/10.3390/ijerph13010134>
- Khairun Nisa K., & Dewi A. S. (2016). Examining facets of emotional exhaustion in the Malaysian service industry. *International Journal of Business and Management*, 7(4), 82–95.
- Khoo, E. J., Aldubai, S., Ganasegeran, K., Lee, B. X. E., Nurul A. Z., & Tan, K. K. (2017). Emotional exhaustion is associated with work related stressors: A cross-sectional multicenter study in Malaysian public hospitals. *Arch Argent Pediatr*, 115(3), 212–219.
- Kumar, K. P. S., Srivastava, S., Paswan, S., & Dutta, A. S. (2012). Depression - Symptoms, causes, medications and therapies. *The Pharma Innovation*, 1(3), 41–55.
- Lahti, A. (2017). *The Perceived Impact of Flexible Working Hours on Work-life Balance in the Educational Sector in Finland* [Aalto University]. <https://core.ac.uk/download/pdf/84756547.pdf>

- Lal, R. S., & Singh, A. P. (2015). Does job stress play any role in work motivation of university clerical employees? *International Research Journal of Social Sciences*, 4(11), 7–11.
- Lobel, M., & Dunkel-schetter, C. (1990). Conceptualizing stress to study effects on health: Environmental, perceptual and emotional components. *Anxiety Research*, 3, 213–230.
- Loscalzo, Y., Raffagnino, R., Gonnelli, C., & Giannini, M. (2019). Work–Family Conflict Scale: Psychometric Properties of the Italian Version. *SAGE Open*, 9(3). <https://doi.org/10.1177/2158244019861495>
- Lovibond, S. H., & Lovibond, P. F. (1995). Manual for the depression, anxiety and stress scales. Psychology Foundation of Australia.
- Macintyre, A., Ferris, D., Gonçalves, B., & Quinn, N. (2018). What has economics got to do with it? The impact of socioeconomic factors on mental health and the case for collective action. *Palgrave Communications*, 4(1), 1–5. <https://doi.org/10.1057/s41599-018-0063-2>
- Marimuthu, P., & Vasudevan, H. (2020). The psychological impact of working from home during Coronavirus (COVID 19) pandemic: A case study. *CnR's International Journal of Social & Scientific Research*, 6(1), 18-29
- Mata, D. A., & Sen, S. (2017). Work-family conflict and the sex difference in depression among training physicians. *JAMA International Medicine*, 177(12), 1766–1772. <https://doi.org/10.1001/jamainternmed.2017.5138>
- Menon, A. (2021). Press Release: Pandemic's impact on Malaysian Workforce: 28-Country Ipsos Survey for the World Economic Forum. https://www.ipsos.com/sites/default/files/ct/news/documents/2021-01/ipsos_malaysia_press_release_-_pandemics_impact_on_malaysian_workforce_-_200121_final.pdf
- Mostert, K. (2008). Time-based and strain-based work-family conflict in the South African Police Service: Examining the relationship with work characteristics and exhaustion. *Acta Criminologica: Southern African Journal of Criminology*, 21(3), 1–18.
- Nurnazirah J., Samsiah M., Zurwina S., & Fauziah N. (2015). Work-family conflict and stress: Evidence from Malaysia. *Journal of Economics, Business and Management*, 3(2), 309–312. <https://doi.org/10.7763/JOEBM.2015.V3.200>
- Park, S. H., Song, Y. J. C., Demetriou, E. A., Pepper, K. L., Thomas, E. E., Hickie, I. B., & Guastella, A. J. (2020). Validation of the 21-item Depression, Anxiety, and Stress Scales (DASS-21) in individuals with autism spectrum disorder. *Psychiatry Research*, 291, 113300. <https://doi.org/10.1016/j.psychres.2020.113300>
- Piko, B., & Mihalka, M. (2018). Study of work-family conflict (WFC), burnout and psychosocial health among Hungarian educators. *Central European of Occupational and Environmental Medicine*, 24(1–2), 83–95.
- Ping, L., Id, W., Alias, H., Fuzi, A. A., Omar, I. S., Nor, A. M., Tan, M. P., Baranovich, D. L., Saari, C. Z., Hamzah, S. H., Cheong, K. W., Poon, C. H., Id, V. R., Che, C., Myint, K., Zainuddin, S., & Chung, I. (2021). Escalating progression of mental health disorders during the COVID-19 pandemic: Evidence from a nationwide survey. *PLoS ONE*, 16(3), 1–14. <https://doi.org/10.1371/journal.pone.0248916>
- Prime Minister Department. (2010). Tenth Malaysia Plan 2011-2015. In Economic Planning Unit. [https://policy.asiapacificenergy.org/sites/default/files/11th Malaysia plan.pdf](https://policy.asiapacificenergy.org/sites/default/files/11th%20Malaysia%20plan.pdf)
- Prime Minister Department. (2015). Eleventh Malaysia Plan 2016-2020: Anchoring Growth on People. <https://doi.org/10.1007/s10934-016-0189-9>
- Rabenu, E., Tziner, A., & Sharoni, G. (2017). The relationship between work-family conflict, stress and work attitudes. *International Journal of Manpower*, 38(8), 1143–1156. <https://doi.org/10.1108/IJM-01-2014-0014>
- Remes, O., Brayne, C., van der Linde, R., & Lafortune, L. (2016). A systematic review of reviews on the prevalence of anxiety disorders in adult populations. *Brain and Behavior*, 6(7), 1–33. <https://doi.org/10.1002/brb3.497>
- Sarstedt, M., Ringle, C. M., Smith, D., Reams, R., & J. F. Hair Jr. (2014). Partial least squares structural equation modeling (PLS-SEM): A useful tool for family business researchers. *Journal of Family Business Strategy*, 5(1), 105–115. <https://doi.org/10.1016/j.jfbs.2014.01.002>
- Sekaran, U. (2003). *Research methods for business: A skill building approach* (4th ed.). John Wiley & Sons, Inc.
- Selye, H. (2013). *Stress in health and disease*. Butterworth-Heinemann.
- Shaughnessy, J. J., Zechmeister, E. B., & Zechmeister, J. S. (2015). *Research Methods in psychology*. In *Psychology for Nurses*. McGraw-Hill Education, Singapore. https://doi.org/10.5005/jp/books/12408_3
- Swift, P., Cyhlarova, E., Goldie, I., & C. O'Sulli. (2014). *Living with anxiety: Understanding the role and impact of anxiety in our lives*.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using Multivariate Statistics* (5th ed.). Pearson International Ediation