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Mediation Effect of Debt Behaviour on Malaysian Employees' Financial Strain Moderated by Job Satisfaction

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Abstract

Recession and currently the unfolding pandemic COVID-19 do greatly impact most households economically. Individuals faced uncertainty affecting them in various aspects of life leading to stressful situation. The Expected Utility Theory supported this study aiming to identify factors affecting financial strain and the mediating effect of debt behaviour including the moderating effect by job satisfaction. A multi-stage random sampling among Malaysian employees resulted in 322 usable forms. External locus of control and debt attitude were found to be significantly affecting financial strain of employees. Mediation effect of debt behaviour was confirmed in the influence by debt attitude. Job satisfaction was found to moderate the influence of debt behaviour on the financial strain. Thus, employees should be concerned with their debt management as it can reduce financial strain. Ensuring high job satisfaction should be the focus of employers to multiply the effect of positive debt behaviour in reducing the financial strain.

Keywords: Debt Attitude, Debt Behaviour, Financial Strain, Job Satisfaction, Locus Control

Introduction

The external pressure such as recession and currently the unfolding pandemic COVID-19 do greatly impact most households economically. Throughout their life-cycle, individuals faced uncertainty that affects them in various aspects of life leading to stressful situation. The unemployment rate in Malaysia during the pandemic increased from 3.4 per cent in the previous year (Department of Statistics Malaysia, 2020) to 4.7 per cent in March 2021 (Department of Statistics Malaysia, 2021). In a year, unemployment increase 23.4 per cent to 753.2 thousand which affect the finances of the households. As most civil sector employees have permanent job status, they may not face retrenchment like the private sector especially among those working in small companies. However, households should be financially prepared for these circumstances.

Owning assets such as homes would reduce the likelihood of being bankrupt where debtors were seven times more likely to be charged for bankruptcy as compared to a homeowner (Guven & Sorensen, 2012). Concurrently, Scanlon and Adams (2008) stated that homeowners were less likely to file for bankruptcy. Owning assets is a way to face financial uncertainty in the long term of our lives. In addition, homeownership benefits households in terms of elevated confidence, personal security and self-esteem (Guven & Sorenson, 2012; Wei & Shang-Jin, 2011). Sherraden (1991) earlier contended that owning physical wealth may contribute to personal security, elevated social status, providing a sense of control and well-being. In conjunction to these, this study focused on homeowners. The Expected Utility Theory supported this study aiming to identify factors affecting financial strain and the mediating effect of debt behaviour on Malaysian homeowners. Furthermore, it ascertains the moderating effect by job satisfaction of Malaysian employees who are homeowners.

A total of 4,310 or 7.42 per cent bankrupts were public sector workers in comparison to the total bankruptcy for the latest five years from 2017 to 2021 (Malaysian Department of Insolvency, 2021). These statistics are in tandem with past studies displaying positive relationships between personal and household debt having a financial problem (French & McKillop, 2017; Sweet *et al.*, 2013). Purchasing houses may require a bank loan or from other sources as it requires a large amount of money. Each year there are gradual increase of the total housing loans disbursed to purchase residential houses and it was RM626,924.7 million in April 2021 (Bank Negara Malaysia, 2021).

As the prices of homes are high, the large proportion of consumer debt constitutes home mortgage debt (Hurst & Lusardi, 2004). Since homeownership contributes to improving subjective well-being as it is a secured asset, it would likely be reducing financial strain among homeowners. Financial strain can be decomposed into the cognitive, emotional, and behavioural aspects of the financial hardship experience (Liljenquist & Aldana, 1999). The prevalence of financial strain is likely to increase with the increase in consumer debt. Hence, purchasing a house using a home loan may, in a way elevate the financial strain. The commitment of paying monthly debt may reduce the flexibility of available money for current and future consumption.

Financial strain resulted in negative consequences on individuals as found by (Yuliandi *et al.* 2018). In specific, high financial strain was negatively affecting the financial security of households among single mothers. The financial strain was also related to hostile parenting (Benner & Kim, 2010; Gonzales *et al.*, 2011) and less school involvement (Camacho-Thompson *et al.*, 2016). Among individuals, financial strain was also reported to display depressive symptoms and anxiety (McInerney *et al.*, 2013; Sun *et al.*, 2009; Szanton *et al.*, 2010).

The financial strain was found to affect mental health controlling for household income and wealth (Sun *et al.*, 2009). The financial strain was more influential on poor mental health as compared to the objective economic status or debt level of residents in Australia (Turunen & Hiilamo, 2014). Higher unemployment leading to financial strain was related to a higher likelihood of mental health incident for adults more than 65 years old (McInerney & Mellor, 2012). Wilkinson (2016) later stated that financial strain was a strong influential predictor in low mental health among old age residents between the year 2006 and 2010. Research had also concluded the effect of financial strain on job performance where Cox *et al* (2009)

indicated that having poor financial well-being can reduce productivity. This is because employees have been using working time to overcome their financial problems.
In conjunction to the negative effects of financial strain on the well-being or the work environment, it is critical to assess the factors influencing it. Owning a house using a mortgage loan requires them to manage the debt which may also lead to a certain outcome. Thus, this study aims to identify influential predictors on financial strain among employees who are homeowners. It will further determine the mediating effect of debt behaviour and the moderating effect of job satisfaction in the influence of debt behaviour among homeowners on the financial strain.

Literature Review

Systems Theory and Expected Utility Theory

Systems are based upon the division of the world into system and environment. There is an interaction between the system and environment such as the human responding to the things happening in the environment. Humans have certain characteristics such as their knowledge, skills, interest, personality, attitude and others that can be changed according to the influence from the environment. They may have resources to be allocated for several goals. The inputs that comprised of resources and demands will go through a process (throughput) and will result in outcomes. This flow of process was explained by the Resource Management Model (Deacon & Firebaugh, 1988). Output can be their satisfaction as result from the inputs that they acquire. In this study, the locus of control and debt attitude are the inputs for their management process that involves debt behaviour. After changes are made due to the interaction with the environment, the outcome may be favourable or not favourable.

The Expected Utility Theory can further explain the influence of personal factors on the financial strain among homeowners as shown in Figure 1. The expected utility term can be used to explain preferential among individuals (Morgenstern, 1976). Decisions are made under risk and uncertainty where it describes that the outcome is interrelated to people's behaviour. The prediction and the explanation of the influence on specific behaviours in individuals and family economy could be explained by (The theory White, 2012). On the basis of current consumption and outcome, the prediction of the future behaviour could be justified by the Expected Utility Theory. The behaviour would be enhanced due to the expected output that is perceived to be highly relevant and beneficial to the individual.

The unfavourable situation that they perceived to be in as a consequence of doing certain activity will affect the outcome of their actions. They tend not to involve in more debt if they perceived that they would feel unsatisfied with the outcomes. This justifies the debt behaviour as potential influential factors on the financial strain. Having more control on their action makes them more likely to be satisfied with the outcome. Based on the expected utility that they will gain, they will act accordingly. An external locus of control individual will be unable to control their activities and tend to be less satisfied resulting in a lower utility. Consequently, the lower utility leads to a more financial strain.

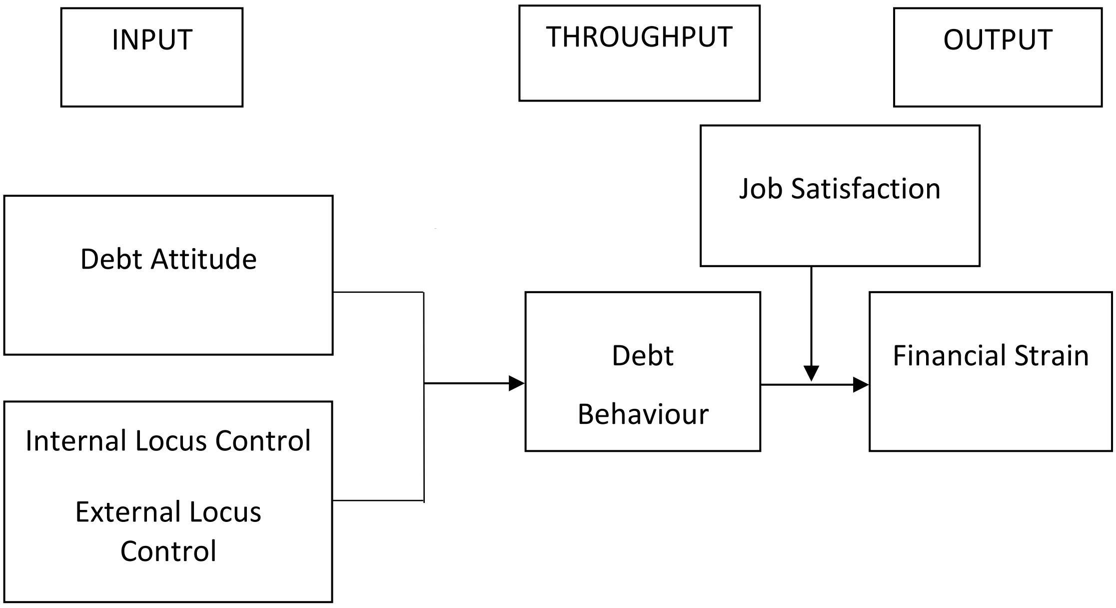

Figure 1 Conceptual framework for the mediated and moderated financial strain model

Empirical Studies

Financial strain

Various measures of financial strain were reported in past studies. Family's debt status is one of the measurements, another is on the insufficiency of emergency funds and failure to meet current financial commitment (Grafova, 2018). Financial strain and health's relationship was found to be bidirectional. For the items measuring financial strain, those assessed the degree of difficulty in fulfilling financial obligations. Hence, the third approach in the inability to meet current financial obligations is used as the measurement of financial strain.

How economic hardship is embedded in mental health is the subjective component in financial strain and cannot be measured by objective indicators of financial well-being (Wilkinson, 2016). High financial strain score of 13 from a maximum of 21 Newlywed couples in an Ireland study were found showing high levels of stress (Hughes & Duffy, 2005). Lacking experience in handling financial matters and with additional financial dependents contribute to the high level of financial strain.

Debt Attitude

Financial management practices and money attitude determined the financial problem and financial satisfaction among young male Australian workers (Dowling *et al.*, 2009). In other studies, financial attitudes, financial behaviour and financial knowledge influenced financial strain (Woodyard & Robb, 2016; Xiao *et al.*, 2014). These studies were on different aspects of attitude. Later, Almenberg *et al* (2019) studied on debt attitude that was measured by whether they were comfortable or not with debt. After controlling for socioeconomic variables including age, education and income, it revealed that those who were uncomfortable with debt had considerably lower debt-to-income ratios. Debt attitude can act as a self-imposed borrowing constraint, where those who are uncomfortable with debt may hence be less likely to benefit from favourable tax treatment of interest payments, and thus would be lower in debt. Financial attitude specifically financial risk tolerance was found to influence one aspect of financial behaviour of gold investment (Fauzi *et al.*, 2017). In a recent study, financial attitudes and self-efficacy were found to have a positive and significant direct effect on the financial behaviour of students in Semarang City (Maulida *et al.*, 2021).

Debt Behaviour

Financial behaviour is defined as any actions an individual does or does not take to secure their finances and is strongly related to financial situation, and is associated with people's sense of financial well-being. Hence, financial behaviour is indirectly associated with financial well-being (Bureau of Consumer Financial Protection, 2018). Reviewing past studies on debt behaviour, it was found that the stress, strain and financial difficulties faced were influenced by the irrational use of money dimensions, together with credit attitudes and credit practices of students (Joo *et al.*, 2003). Hayes (2006) further contended that negative money attitudes and the perceptions of inability to control their money leads to the financial behaviours resulting in an increased level of financial stress and strain. Studies by Joo *et al.* (2003) and Hayes (2006) only looked at the influence of the general financial behaviour on the financial strain. In the same vein, negative financial behaviour would affect the financial vulnerability that includes the feeling of financial instability (Magli *et al.*, 2020; Sabri *et al.*, 2021) and financial stress among employees (Husniyah *et al.*, 2019). As defined by Liljenquist and Aldana (1999) and measured by Hugh and Duffy (2005), the financial stress concept is similar to financial strain. Meanwhile, other than contribution by conservative attitude and financial socialisation, Falahati *et al* (2011) confirmed that financial behaviour affected financial problems negatively. While financial problems experienced by public sector employees influenced their financial stress (Husniyah *et al.*, 2019), the studies by Falahati *et al* (2011); Jan *et al* (2013) gave insights of an indirect association between financial behaviour and financial stress or financial strain through the financial problem.

The proportion of debt holdings among households showed that financial debt level as compared to assets owned was associated to increased perceived stress and depression (Sweet *et al.*, 2013). There is also a positive association between personal and household debt with the financial problem (French & McKillop, 2017). Since debt is involved with high interest rates or fees, if not managed properly, it can lead to financial distress (Lusardi & Tufano, 2015). In the British Household Panel Survey, influential factors causing debt problems were found as the unsecured debt-income ratio, financial wealth level of households and health condition (Del-Rio & Young, 2005). Income loss among homeowners will affect them financially. Depression score are reported to be related to being in mortgage or rent arrears among young mothers in Ireland (Kiernan, 2019). The survey among households in the United States have shown that changes in the capacity to service mortgages among older adults gave significant increase in depression (Sargent-Cox *et al.*, 2011). Households having to serviced student loan debts and homeowners paying for mortgage loans were also having a lower likelihood to be satisfied with their overall financial situation (Aboagyea & Junga, 2018). The unsecured-debt-income ratio was influencing debt problems.

Locus of Control

The term locus control is the ability of individuals in controlling their action and were not much influenced by the environment. Locus of control is referred to the causes of the individuals' successes and failures either internal or external (Forte, 2005). Individuals who are able to control their activities are an internally locus control individuals. Thus, locus control can be the underlying factor contributing to the success of planned activities. Those that are unable to take control of their reactions are an external locus of control person. Locus of control shows a significant role in the personal finance context as shown by past studies (Furnham & Cheng, 2017; Ponchio *et al.*, 2019). Zurlo (2009) also studied the influence of locus of control on financial well-being and financial status, and revealed a direct effect of locus of control on these dependent variables. Internally locus of control individuals would be displaying a better financial well-being and financial status, reflecting a lower financial strain.

A similar concept with locus control namely self-control bias, it had a positive and significant influence on financial satisfaction (Sahi, 2017). Another similar concept that is sense of control is related to financial losses. A study found that financial losses among individuals decreased sense of control and increased engagement of interpersonal resources (Mejía *et al.*, 2016). By offering help, it increased sense of control and it decreased with household complexity. A study on public sector employees in Malaysia focused on the influence of locus of control and financial behaviour on the financial well-being. It resulted in locus of control and financial behaviour having significant influences on financial well-being (Mokhtar & Rahim, 2016). In concurrent with this, a recent local study revealed that an externally locus of control individual with high materialistic will be more likely to face fewer financial problem (Husniyah *et al.*, 2020).

Job Satisfaction

The significant effect of job satisfaction on the financial strain was found in a study by Bowling *et al.* (2010). In their meta-analytic examination of the relationship between job satisfaction and life satisfaction, there was a positive association between job satisfaction and life satisfaction among individuals. Financial satisfaction is a dimension in the life satisfaction index and it is an inverse concept to financial strain, thus the result suggests a significant negative effect of job satisfaction on the financial strain. More than two-thirds were satisfied with one aspect of their job such as their workplace supportiveness and less satisfied with promotion opportunities in a descriptive study by Lapidos *et al.* (2018). In terms of the finances, slightly more than one-third reported that they could not generate adequate funds to address a common financial shock reflecting financial vulnerability. These results indicated a negative association between job satisfaction and financial strain.

Debt Behaviour as a Mediator

Debt attitude was consistently found to be significantly predicting debt behaviour across nations, and debt behaviour on the other hand influenced financial strain either reflected by measurements of financial problem, financial vulnerability, financial satisfaction or financial well-being as discussed above. Thus, this study proposed debt behaviour as a mediator between debt attitude and debt behaviour in the influence of debt attitude on financial strain. Previous studies had tested the mediating effect of financial behaviour in the relationship between financial attitude with financial well-being. Financial behaviour was found to have full mediation for the influence of internal locus of control on financial vulnerability (Magli *et al.*, 2021).

Job Satisfaction as a Moderator

The observed relationship between job satisfaction and financial strain in previous studies as discussed above enabled job satisfaction to be introduced as a moderator in the effect of debt behaviour on the financial strain. Judge and Klinger (2007) contended that a third variable affecting the influence strength of an independent variable such as debt behaviour on a dependent variable namely financial strain is a moderator variable. By proposing job satisfaction as the moderator variable, job satisfaction if it could act as a moderator would be expected to increase or reduce the effect between the variables. Previous studies gave the interrelationships between factors proposed in this study to influence the financial strain of employees who are homeowners. Research involving the predictors namely debt behaviour and locus control had provided proof for the significance of the influence on the financial strain. In spite of that, with regards to job satisfaction as a moderator, no study was found on the moderation effect of variables on the financial strain.

Based on the related past studies, these hypotheses were developed to determine the significance of the effects of personal and behavioural factors on financial strain.

i. There are significant effects of debt attitude, locus control and debt behaviour on financial strain.
ii. Debt behaviour mediates the influence of debt attitude and locus control on financial strain.
iii. Job satisfaction moderates the influence of debt behaviour on financial strain.

Methodology

Research Design

A quantitative correlational research design was chosen for this study. A cross-sectional survey was performed using a set of a self-administered questionnaire. The civil sector employee is identified as the unit of analysis where the employee has a regular income. This is decided to overcome the income risk as civil sector employee is not easily retrenched due to their permanent position. Meaning that excluding the factor of income irregularity among the respondents.

Samples

A multi-stage random sampling was performed to select 400 respondents in Peninsula Malaysia. Homeowners is the targeted population to generalise the findings of this study. The first stage of random sampling was done to select four states through balloting. The selected states were Kedah, Perak, Terengganu and Johor. While the second stage was selecting the agencies in the urban and rural areas from the lists of agencies in the civil sector websites. The urban area was represented by areas under the city council and municipal council while the district council represented the rural area.

A minimum sample size of 384 (Dillman *et al.*, 2007) is required for the Public Services Department which had 1.6 million civil servants (Department of Statistics Malaysia, 2018). The confidence level is 95 per cent with sample estimation within ±5 per cent of the true population value. Having a regular income enabled them to make long-term loan repayment among the homeowners. A total of 100 samples was intended from the state in each zone which considered the sampling among working individuals. From each department in the urban area or rural area, a total of 50 respondents were randomly chosen through a list of names by liaison officers working in those agencies.

Data Collection

The consent of the liaison officers in the selected agencies to participate in the survey were sought prior to the data collection. They were aware of the criteria set for the respondents which required the respondents to be homeowners. The distributions of the self-administered questionnaires to 400 potential respondents were done at their workplace however only 322 completed forms were obtained. For each department, the liaison officers had made random selection of the respondents based on the lists of employee's names.

Measurement

Established measurements from past studies were adapted in this study. For the dependent variable which is financial strain, the items measuring financial strain evaluate the extent of the difficulty in fulfilling financial obligations (Liljenquist & Aldana, 1999). Hence, with a high score, it reflected higher financial strain. Debt behaviour was measured using items as used by Hira (2012) on how individuals manage their debts. A higher score shows a better or positive debt behaviour, or good repayment behaviour. The variables used a scale of 1 (never) to 5 (always). The debt attitude measured the perception on the involvement in debt. The higher the score, the more positive attitude towards the debt by the individuals. A Likert scale from 1 (strongly disagree) to 5 (strongly agree) was used to measure it.

Measurements of locus of control were adapted from Rotter (1966) using a Likert-type scale from 1 (strongly disagree) to 5 (strongly agree). An internal locus of control resulted from a higher score while an external locus of control individual gives lower score. Individuals who are externally locus of control will more likely not to adopt healthy behaviours as they believe that external forces are controlling their lives. The job satisfaction variable was self-assessed using a scale of 10. It ranged from strongly unsatisfied (1) to strongly satisfied (10) (Mitchell *et al.*, 2013) and was used as a moderator in the model.

Data Analysis

Explore Data Analysis (EDA) determined the normality of the distribution of the composite index of the variables. It was confirmed that the data fulfilled the assumptions for parametric analysis of normality and homoscedasticity. The graphs showed a dumb-bell shape reflecting a normally distributed data and supported with the low range of skewness and kurtosis within -1 and +1. Hierarchical multiple regressions using SPSS version 26 was employed to determine the significant predicting factors on financial strain, the mediating effect of debt behaviour and the moderating effect of job satisfaction. The multiplicative term was created from centred variables to determine the moderating effect of job satisfaction on the influence of debt behaviour on the financial strain (Baron & Kenny, 1986).

Established measurements chosen from past studies resulted in content validity for the measurements. The pilot study done on small samples of 30 prior to the actual data collection resulted in face validity. Measurements were refined following the pilot study as any ambiguities of the questions were identified. The reliability of the measurements was confirmed using Cronbach Alpha statistic that ranged from 0.6 to 0.9 for the variables of external locus control, debt behaviour and financial strain giving reliable measurements.

Fitness of the Models

In testing mediation, three models are required to establish the mediation effect by debt behaviour in the influence of debt attitude on financial strain as depicted in Figure 2. The internal and external locus of control were used as control variables as these variables were consistently found as significant variables in relation with financial well-being or financial strain (Furnham & Cheng, 2017; Husniyah *et al.*, 2020; Mejía *et al.*, 2016; Mokhtar & Rahim, 2016; Ponchio *et al.*, 2019; Zurlo, 2009).

Debt attitude was regressed on debt behaviour to assess the coefficient (a value) of the influence of debt attitude on debt behaviour. The valid debt behaviour model ($F = 12.052$; $p = .000$; S.E. = 3.56623) had an explained variance of 10.9 percent of the debt behaviour by debt attitude and locus of control. Thus, the significance of the F-values indicated the predictive power of the model. While the coefficient (b value) of the debt behaviour influence on financial strain was obtained when debt behaviour (and debt attitude as the predictor) was regressed on financial strain (Model 2 in Table 5).

Indirect effect of debt attitude on financial strain = ab;
Direct effect of debt attitude on financial strain = c′

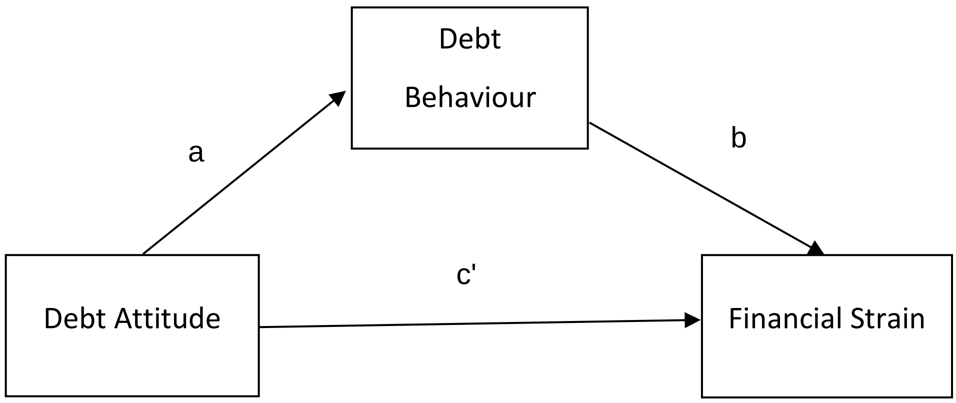

Figure 2 Mediation effect of debt behaviour in the influence of debt attitude on financial strain

The effects of the factors in the financial strain framework, the mediating effect of debt behaviour and moderating effect of job satisfaction were assessed using four regression models. The continuous dependent variable of financial strain was regressed with the personal and behavioural factors of the employees. The first model included the internal locus of control, external locus of control and debt attitude. The second model was introduced debt behaviour as the mediator. The third model was included the potential moderator variable of job satisfaction. The fourth model had the interaction effect of the debt behaviour and job satisfaction. Valid models of hierarchical regression were justified by significant F-statistics with a high significant F-statistic for the final model ($F = 43.517$; $p = .000$) in Table 1.

Table 1
ANOVA[a] table for mediated and moderated multiple regressions

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1326.685	3	442.228	16.782	.000[b]
	Residual	6666.747	253	26.351		
	Total	7993.432	256			
2	Regression	3761.394	4	940.348	55.994	.000[c]
	Residual	4232.038	252	16.794		
	Total	7993.432	256			
3	Regression	3896.374	5	779.275	47.741	.000[d]
	Residual	4097.058	251	16.323		
	Total	7993.432	256			
4	Regression	4083.535	6	680.589	43.517	.000[e]
	Residual	3909.897	250	15.640		
	Total	7993.432	256			

a. Dependent variable: financial strain
b. Predictors: (constant), internal locus of control, external locus of control, debt attitude
c. Predictors: (constant), internal locus of control, external locus of control, debt attitude, debt behaviour
d. Predictors: (constant), internal locus of control, external locus of control, debt attitude, debt behaviour, job satisfaction
e. Predictors: (constant), internal locus of control, external locus of control, debt attitude, debt behaviour, job satisfaction, debt behaviour x job satisfaction

Fit models were found for Model 2, 3 and 4 which were full models having high values of coefficient analysis of determination (R square) between 0.471 to 0.511 as displayed in Table 2. Explained variance of 47.1 to 51.1 per cent of the variation in financial strain reflected a fit model in predicting financial strain. Cohen (1992) stated that the values for small, medium, and large R^2 are respectively .0196, .1304 and .2592.

Table 2
Fitness of the financial strain model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.407[a]	.166	.156	5.13330
2	.686[b]	.471	.462	4.09802
3	.698[c]	.487	.477	4.04017
4	.715[d]	.511	.499	3.95469

a. Predictors: (constant), internal locus of control, external locus of control, debt attitude
b. Predictors: (constant), internal locus of control, external locus of control, debt attitude, debt behaviour
c. Predictors: (constant), internal locus of control, external locus of control, debt attitude, debt behaviour, job satisfaction
d. Predictors: (constant), internal locus of control, external locus of control, debt attitude, debt behaviour, job satisfaction, debt behaviour x job satisfaction

Results and Discussion

Descriptive Analysis for Variables

Descriptive analysis for the variables in the financial strain model are displayed in Table 3. Debt behaviour and internal locus control were higher than the middle score of 3, thus revealing a better than average debt behaviour or positive debt behaviour, while being a more internally locus of control. The mean score for external locus of control was at the opposite direction of internal locus of control, as expected, which was giving a lower external locus of control. The mean score for debt attitude was below the middle score of 3 meaning that the respondents did not favour debt. The negative debt attitude was concurrent with the positive debt behaviour. Individuals did not favour debt and they tend to avoid debt. However, for these employees who were homeowners, most of them (80%) had a debt load at least 20 per cent of their salary, while a quarter of them had more than 40 percent of their salary paying for debt. Though they have debt, they were managing their debt well. With a higher internal locus of control, their ability to control their actions on taking debt for example were within their control.

In light of their status as homeowners, their high debt commitments were due to the housing loan in purchasing the house. As much as they dislike debt, they tend to take high debt for the purpose of owning a house. The attraction to be homeowners may surpass their dislike of being indebted. Knowing that they were on average an internally locus of control individual, they were capable of controlling their action and indeed they were. They were found to be highly satisfied with their job from the high mean score calculated among these homeowners. Overall, it may be seen that their high job satisfaction may be due to some kind of security or a guarantee in the long run resulting from the job such as a good pay, a secure job or a guaranteed income due to permanent job status. With these features of job, they have a higher chance to secure a home loan with a long-term commitment.

Table 3
Descriptive analysis for variables

Variable	Mean Statistic	Std. Deviation Statistic	Skewness Statistic	Std. Error	Kurtosis Statistic	Std. Error
Debt behaviour	3.9	0.625	-.468	.140	.631	.279
External locus of control	2.7	0.896	-.120	.137	-.185	.274
Internal locus of control	4.0	0.729	-.805	.137	.965	.274
Debt attitude	2.5	0.819	.173	.138	-.210	.275
Financial Strain	1.9	0.951	1.027	.140	.491	.279
*Job satisfaction	7.6	1.611	-.590	.147	-.018	.293

*Scale 1-10; others are 1-5

Mediation Effect by Debt Behaviour

Prior to determining the mediation effect of debt behaviour in the influence of debt attitude on financial strain, a multiple regression of the influence of debt attitude on debt behaviour with the presence of internal and external locus of control in the model was performed. The results for Model 1 are shown in Table 4 and the model gave a coefficient as shown in Figure

2. As presented in Table 4, debt attitude was found to be significant in influencing debt behaviour.

Table 4
Multiple regression analysis for debt behaviour

Model		Unstandardised Coefficients		Standardised Coefficients		
		b	Std. Error	Beta	t	Sig.
1	(Constant)	20.632	1.472		14.013	.000
	Internal locus of control	.438	.095	.255	4.629	.000
	External locus of control	-.195	.124	-.092	-1.570	.118
	Debt attitude	-.148	.070	-.125	-2.118*	.035

Dependent variable: Debt behaviour; *$p \leq 0.05$

Following the above regression, another regression having financial strain as the dependent variable was developed before the potential mediator is included. For the Model 1 in Table 5, two of the three variables included were found to be significantly influencing the financial strain of the homeowners. Only external locus of control and debt attitude were found to be significantly predicting financial strain of homeowners but not internal locus of control in the first model. External locus of control and debt attitude showed significant results at the 99 per cent confidence level (b = .939, p = .000; b = .315, p = .004 respectively). Externally locus of control homeowners displayed a higher financial strain. Individuals are unable to take control of their actions and tend to follow others in their decision making. As a result, the outcomes are not favourable to them. The positive debt attitude would lead to more financial strain. This is due to the higher possibility of them involving in debt. Those homeowners who prefer to buy on credit or favour to take loans in fulfilling their wants would feel stressful with their finances.-This may be due to the high monthly debt commitment and they may be surviving from month to month on their pay-check. Vice-versa, those with a negative debt attitude tend to experience less financial strain as they may avoid debt. This is supported by Almenberg *et al.* (2019) study who found that those who were uncomfortable with debt would have considerably lower debt-to-income ratios. These findings are also in line with past studies for debt repayment (Sweet *et al.*, 2013) and locus of control (Furnham & Cheng, 2017; Mejia *et al.*, 2016; Mokhtar & Rahim, 2016; Ponchio *et al.*, 2019).

Table 5
Coefficient table for the mediated multiple regression

Model		Unstandardised Coefficients		Standardised Coefficients		
		b	Std. Error	Beta	t	Sig.
1	(Constant)	4.890	2.243		2.180	.030
	Internal locus of control	-.119	.144	-.048	-.828	.409
	External locus of control	.939	.190	.303	4.947**	.000
	Debt attitude	.315	.109	.177	2.881**	.004
2	(Constant)	22.969	2.337		9.828	.000
	Internal locus of control	.260	.119	.104	2.177*	.030
	External locus of control	.780	.152	.251	5.125**	.000
	Debt attitude	.167	.088	.094	1.890	.060
	Debt behaviour	-.873	.072	-.586	-12.041**	.000

Dependent variable: Financial strain; *$p \leq 0.05$; **$p \leq 0.01$

Model 1 gives the c value for the effect of debt attitude on financial strain without the debt behaviour as the mediator

Model 2 gives the b value for the effect of debt behaviour on financial strain with the debt attitude as the predictor

Model 2 gives the c' value for the effect of debt attitude on financial strain with the debt behaviour as the mediator

Consequently, the potential mediator debt behaviour was added to give Model 2 as shown in Table 5. The introduction of debt behaviour resulted in a significant influence on financial strain. Moreover, debt attitude become insignificant in influencing financial strain. Thus, the hypothesis stating that there are significant effects of debt attitude, locus control and debt behaviour on financial strain was partially supported. Debt attitude is the only variable that is not influencing financial strain directly while both dimensions of locus of control namely the internal and external dimensions are having effects on financial strain.

This result of the significance of debt attitude becoming insignificant may shows that debt behaviour is a potential mediator. Nevertheless, in testing the significance of the mediation effect, Sobel test was used to test upon the null hypothesis stating that the mediated effect equals zero in the population (MacKinnon & Dwyer, 1994; MacKinnon *et al.*, 1995).

Sobel test equation:

$z\text{-value} = a*b/\text{SQRT}\ (b^2*s_a^2 + a^2*s_b^2)$

$a = -0.148$; $b = -0.873$; S_a 0.070; S_b 0.072

Using Sobel test, the test statistic was found to be significant at 95 per cent confidence level (statistic = 2.083; S. E. = 0.062; p = 0.037). The hypotheses on the mediating effect of debt behaviour which stated "Debt behaviour mediates the influence of debt attitude and locus control on financial strain" was partially supported. It supported only the mediating effect of debt behaviour in the influence from debt attitude on financial strain, however it is a full mediation as it changed from a significant to a non-significant influence. While the mediation result involving locus of control was not in line with a previous study which found financial behaviour having a full mediation in the influence of internal locus of control on financial vulnerability (Magli *et al.*, 2021). Nevertheless, the past study used slightly different constructs and focusing on lower income community.

The mediation effect of debt behaviour was confirmed in the influence of debt attitude on the financial strain of employees in this study. A negative debt attitude without the debt behaviour construct in the model increased financial strain. However, with the inclusion of debt behaviour in the model, a positive debt behaviour among the employees who were homeowners reduced the financial strain. Though incurring high debt from their mortgage loan among homeowners, financial strain was less experienced by the employees due to their positive debt behaviour. Homeowners also were less likely to be charged for bankruptcy (Guven & Sorensen, 2012; Scanlon & Adams, 2008). Furthermore, in spite of having high debt load as a result of having incurred high debt of mortgage loan, these employees may have a feeling of security either emotionally or financially (Guven & Sorenson, 2012; Wei & Shang-Jin, 2011) as they owned an appreciating value asset. thus, employees should be concerned with their debt management as it can reduce financial strain. As contended by Lusardi and Tufano (2015), the debt should be managed properly since it involved high interest rates or fees and could lead to financial distress.

Moderation Effect by Job Satisfaction

Model 3 as depicted in Table 6 which included job satisfaction as the potential moderator showing a highly significant result for the effect on financial strain (b = -0.746; p = .004) and supported to be further tested as a moderator. With higher job satisfaction, the employee will experience less financial strain and vice-versa. Being satisfied with their job may result from various factors such as a good salary as perceived by them or satisfaction with the work environment and others. This is in line with Lapidos *et al* (2018) results on job satisfaction aspects of workers. The significance of other variables in the influence on financial strain in the model maintained except for debt attitude. This reflected that the debt attitude was not that important as compared to the debt behaviour (b = -.592; p = .000), external locus control (b = .247; p = .000) or internal locus control (b = .130; p = .007) in the influence on financial strain.

In Model 4, the interaction term for the variables of debt behaviour and job satisfaction was created to assess the moderating effect of job satisfaction. The results displayed a significant effect of the interaction term (b = 0.792; p = .001) suggesting job satisfaction as a moderator in the influence of debt behaviour on the financial strain of homeowners. Thus, the hypothesis stating that job satisfaction moderates the influence of debt behaviour on financial strain was supported.

Due to the positive influence of the interaction term on the financial strain, the effect of job satisfaction is to increase the influence of the independent variable on the financial strain. Thus, with a negative influence of debt behaviour on financial strain, this negative influence is enhanced. The negative influence results in good debt behaviour reducing the financial strain. With the moderating effect from high job satisfaction, the financial strain was further reduced with the same level of good debt behaviour. Vice-versa, a poor debt behaviour would increase the financial strain of homeowners, but with higher job satisfaction, it would assist in reducing financial strain faced by the homeowners. Other variables in Model 4 retained their significance as in Model 2 except for debt attitude which revealed the same insignificance result. The debt behaviour (b = -.822; p = .000), external locus control (b = .824; p = .000) internal locus of control (b = .352; p = .003) and job satisfaction (b = -.791; p = .002) significantly affect the financial strain of homeowners. To conclude, job satisfaction enhanced the effect of debt behaviour on the financial strain. Ensuring high job satisfaction should be the focus of employers to multiply the effect of positive debt behaviour in reducing the financial strain.

Table 6
Coefficient table for the moderated multiple regression

Model		Unstandardised Coefficients		Standardised Coefficients		
		b	Std. Error	Beta	t	Sig.
3	(Constant)	22.586	2.308		9.786	.000
	Internal locus of control	.324	.120	.130	2.711**	.007
	External locus of control	.768	.150	.247	5.115**	.000
	Debt attitude	.148	.087	.083	1.692	.092
	Debt behaviour	-.881	.072	-.592	-12.314**	.000
	Job satisfaction	-.746	.259	-.133	-2.876**	.004
4	(Constant)	20.577	2.333		8.822	.000
	Internal locus of control	.352	.117	.141	2.994**	.003
	External locus of control	.824	.148	.265	5.572**	.000
	Debt attitude	.146	.085	.082	1.704	.090
	Debt behaviour	-.822	.072	-.552	-11.414**	.000
	Job satisfaction	-.791	.254	-.141	-3.111**	.002
	Debt behaviour x Job satisfaction	.792	.229	.159	3.459**	.001

a. Dependent variable: Financial strain; $*p \leq 0.05$; $**p \leq 0.01$

As for the strength of the influence on the financial strain by the factors, this was determined based on the beta values. The beta value results (β =-.586; -.592; -.552 respectively) in the four models reflected that debt behaviour was the most influential factor on financial strain as compared to external locus of control and other variables. The debt activities performed by the homeowners were found to be the most important factor in predicting financial strain. By involving more in positive activities regarding debt repayment and debt involvement for the homeowners, the financial strain will be decreased. Thus, homeowners who avoid poor debt behaviour will face less financial strain. Especially for an externally locus of control person, other people are influencing their decision making. Financial strain will be increased with less self-control by the individual. In contrast, individual having more control on themselves may face lower financial strain.

Conclusion

Predicting factors on the financial strain of homeowners were revealed using hierarchical multiple regressions namely internal and external locus of control, debt behaviour and job satisfaction. Debt behaviour mediated the effect of debt attitude on the financial strain of homeowners. Furthermore, job satisfaction was identified as a moderator in the influence of debt behaviour on the financial strain. It enhanced the influence of predictors on financial strain. Debt behaviour was also the most important factor influencing the financial strain of homeowners followed by external locus of control. Practicing good debt behaviour leads to a reduction in financial strain. Financial decisions that were highly controlled by others would induce the financial strain of the homeowners.

Hence, managing debt well should be the focus of the employees as it can minimise the financial strain among employees who were homeowners. High job satisfaction should be attained by employees to offset poor debt behaviour and later is capable to reduce the financial strain. Employers should develop intervention programs to assist employees facing financial strain. Furthermore, employers should ensure high job satisfaction among employees such as by providing a salary to the employees' expectation, a good work environment, fringe benefits or job security. Job performance may be affected for financially high strained employees and thus resulting in a lower productivity.

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