

FINANCIAL PRACTICES AND PHYSICAL HEALTH INFLUENCING FINANCIAL HEALTH OF MALAYSIAN EMPLOYEES

Husniyah, A. R.¹, Mohd. Fazli, S.¹, Norhasmah, S.², Mohd. Amim, O.¹, Norhafifah, S.¹ and Fatin Farwizah, M. R.¹

Abstract

Individuals make financial decisions throughout their working days to be financially well. Physical health and financial health of individual may be interrelated and determined the choice of financial practices that they performed. This study aimed to identify the interrelation between financial practices, physical health and financial health of employees. Important factors affecting financial health of employees are also identified. Prior to these, the employees' levels of financial practices, health risks and financial health were determined. Four states selected from four zones in Peninsular Malaysia were sampled via multistage random sampling to obtain a target of 500 respondents. Selected agencies in those states were contacted to appoint liaison officers who facilitated the data collection processes. Self-administered questionnaires distributed through them resulted in only 356 usable questionnaires. Findings revealed that among the financial practices, only investment was found to be not significantly correlated with financial health, however the regression results revealed that only savings was found to be influencing financial health. This reflected that other financial practices were not as important as savings to the financial health. Health risks were prevalent from the physical and mental measures of health with PCS and MCS slightly below the border of 50 while financial health was slightly above the midpoint of its scale. Older employees with higher income were revealed to have better financial health as compared to younger and lower income employees. Furthermore, only physical measure of health significantly influenced financial health but not mental health. As majority of these employees were young, the health risks may pose a risk on their job productivity and the impact on the quality of public services. Thus, it is critical for the government to foresee these health risks and financial health situation of their employees to ensure better outcomes for the public and country.

Keyword: financial practices, physical health, financial health, health risks, savings

1. Introduction

The financial status of households in Malaysia is being reflected through statistical data of default payment of credit and loans, high indebtedness and in the extreme are the bankruptcy cases. Malaysia's household debt-to-gross domestic product (GDP) ratio was reported to increase up to 89.1 percent as of 2015 from 86.8 percent the previous year (Bank Negara Malaysia, 2015). This makes Malaysia as one of the country having highest household debts in the region. Fortunately, the high percentage was contributed from the increasing in quality assets and the reduction in high risks of low income debtors. However, the number of bankruptcy cases continues to rise by 13.9 percent in 2016 as compared to the year 2015 (Malaysian Department

¹ Faculty of Human Ecology, Universiti Putra Malaysia. Correspondence address: husniyah@upm.edu.my

² Faculty of Medicine and Health Science, Universiti Putra Malaysia

of Insolvency, 2016). Past studies also revealed the financial problems among households and individuals in addition to the financial well-being levels. Financial status as reported from previous studies showed moderate levels such as employees had a savings ratio of less than 10 percent with more than half of the employees had debt-payment ratio of more than or equal to 20 percent (Zaimah, Masud, Haron, Othman, Awang, and Sarmila, 2013), only one-third of the employees working in the public sector have positive net-worth and financially adequate in terms of having enough money to fulfil above basic needs (Husniyah, Mohd. Amim, Mohd. Fazli, and Zuroni, 2016).

Joo and Garman (1998) in the past decade contended that financial matters as one of the most important issues in an individual's daily lives. The effects are not only on an individual's personal and family life, but extending to the person's work life. Being financially well may enable an employee to focus on the work and reducing the time of financial worries that will be a cost to the organization and potential impact on the job performance. Some of the employees facing financial difficulties tend to neglect the execution of their job tasks. Past studies displayed the association of financial stress with employees' health, absenteeism and acceptable work performance (Attridge, 2009; Loibl and Hira, 2005), thus affecting the workplace productivity (Ajala, 2012; Collins and Dietrich, 2011). In addition, income instability and eroded purchasing power may surfaced (Collins and Dietrich, 2011). The issue in financial health status among employees is critical and thus there is a need to unveil the influential factors impacting it.

Individuals make financial decisions throughout their working days to be financially well and the tasks are challenging. This requires individuals to be physically fit to fulfill the demanding tasks in their life and also their job. Financial decisions may involve choosing among financial products and services offered by various financial institutions. Short-term and long-term strategies in planning the finances need to be performed towards financial stability. Financial management strategies then are critical to financial health especially those with limited financial resources. Financial planning involved planning in various aspects for financial needs in their life affecting individuals' financial future needs in an efficient manner. Thus, personal financial planning enabled the individuals to be financially prepared for their future leading to a better financial health. Hence, physical health and financial health of individuals may be interrelated and determined the choice of financial practices that they performed. Altfest (2004) stated that financial planning for individual originates from both economic and finance fields have considered the contributions of Becker and Modigliani.

Individuals facing with health risks would likely be spending their earnings to overcome the risks on their well-being. This may eventually deplete the wealth accumulation if they have any or they may opt to reduce savings put aside for their future. Conversely, a healthy individual may spent less on maintaining their health status and may have surplus of income to save leading to a better financial health. In addition, they are able to work productively for the benefit of themselves and their organization.

The Systems Theory may be utilized to explain the interaction between factors in the microsystem with regards to the individual. Resource Management Model

(Deacon and Firebaugh, 1988) that stemmed from the Systems Theory further elaborates the roles of each factor underlying the process leading to a healthy status of the individuals' finances. The input that consists of demand and resources are represented by the socioeconomic characteristics such as age and income while physical health can be treated as a demand and also a resource in the system. Healthy individuals are human capitals that would act as a human resource to generate more income through working and thus is proposed to influence better financial health. Unhealthy individuals on the other hand would act as a demand that requires use of income to overcome the health issue. Financial practices are the processes in the system leading to financial health.

Hence by knowing the physical health status makes it able to understand the decision that individuals made regarding financial practices and the impact on their financial health. This study aimed to identify the interrelation between financial practices, physical health and financial health of employees. Important factors affecting financial health of employees are also identified. Prior to these, the employees' level of health risks and financial health are determined.

2. Literature Review

Apart from knowledge on finances and the solution to overcome financial problem, Mokhtar and Husniyah (2017) have investigated the factors affecting financial health among public employees in Putrajaya, Malaysia and found that good financial behaviour leads to a better financial health. The effect of financial planning on financial health was observed by the Consumer Financial Protection Bureau (2015). They found that financial planning and goal-setting which help in constructing purpose and structure to individuals' financial decision resulted in good financial health.

In assessing the cause and effect between financial behaviour and satisfaction on individuals' financial situation, the study on the roles of financial literacy, financial behaviour and financial capability as mediating factors between financial education and financial satisfaction showed that subjective financial literacy, desirable financial behaviour and the financial capability index were the most significant mediators between financial education and financial satisfaction (Xiao and Porto, 2017). The study also proposed that financial education has collective benefits for improving financial health such as facilitating knowledge acquisition, increasing confidence in knowledge and competency and encouraging action taking. Those that practiced positive financial behaviour will experience a better financial health compared to others.

Desirable financial behaviour as revealed by Xiao, Chen, and Chen (2014) was an important variable in explaining the financial situation of an individual. Those that practiced positive financial behaviour activities possessed a better financial satisfaction as compared to those whom practiced poor financial behaviour. Among the positive financial behaviours were financial planning, savings and good credit management. Stromback, Lind, Skagerlund, Vastfjall, and Tinghog (2017) revealed the effect of individual differences in self-control and other non-cognitive factors on financial behaviour and financial well-being where individuals reported having good self-control were more likely to save money, have better financial behaviour in general, feel less worry about financial matters and feel more secure about their

current and future financial situation. Socioeconomic characteristic such as income were found to be significantly affecting satisfaction with financial situation (Johnson and Krueger, 2006; Plagnol, 2010).

In relation to this study, local studies similarly looked upon the effect from income (Husniyah, Mohd. Fazli and Ahmad Hariza, 2005; Mohamad Fazli, Jariah, Karen, and Laily, 2008) which had significant influence on satisfaction with financial situation. Employees earning monthly income of at least RM2,500 were also found to be significantly associated with financial adequacy (Husniyah et al., 2016). Regarding the effect of financial behaviour on financial health, financial behaviour was found among the predictor for financial health apart from financial capability and financial literacy (Mohd. Fazli and Falahati, 2013). In another study, Delafrooz and Laily (2011) stated that individuals who practiced positive financial behaviours were likely to have lower financial distress hence, reported to have higher financial satisfaction. However, in another local study that focused on the credit consumers, it was concluded that financial planning was negatively related to financial satisfaction (Husniyah, Syuhaily, Mohd. Fazli, Mohd. Amim, and Ahmad Hariza, 2005). This was justified by stating that the reduced financial satisfaction was compensated by their higher ability of future consumption.

Past studies on health mainly focused on the effect of financial health on the health status of individuals. However, Lyons and Yilmazer (2005) realised the fact that financial strain can be both a cause and a consequence of poor health in their study to examine the association between health problems and financial strain. Adopting three measures of financial strain namely delinquency on loan payment, asset to debt ratio and liquid asset to income ratio, they examined the relationship between self-reported health status and financial strain from the Survey of Consumer Finances (SCF) data. For all three measures, poor health significantly increased the likelihood of financial strain among the consumers. The opposite effect of financial strain contributed to poor health had little evidence from the study.

In terms of mental health and debt issue, a longitudinal dataset having a large sample of 10,900 Chilean households with detailed health and balance sheet information was used to determine the relationship between a three-year debt trajectories and mental health. Depressive symptoms were found to be higher for those over-indebted, including those who progress from moderate to high debt levels. The study suggested that the debt-related contribution to depressive symptoms reduced as debt reduced (Hojman, Miranda, and Ruiz-Tagle, 2016). As stated by Richardson, Elliott, and Roberts (2013), majority of the studies found that more severe debt was found to be related to worse health, however as they contended, causality was hard to establish. Significant relationships between debt and mental disorder through a meta-analysis of pooled odds ratios were found for various mental disorders namely depression, neurotic disorder and psychotic disorders. A study by Kim and Lyons (2008) earlier concluded that generally, financially strained individuals had higher likelihood than those who were not financially strained to report being in poor health.

A study on physical health with the comparison of financial activities and financial health was performed on the participants of a Debt Management Program (O'Neill, Prawitz, Sorhaindo, Kim, and Garman, 2006). The findings revealed that

individuals having better financial status faced less financial problem and contributed to a better health report. Further test displayed that those with a better health were able to avoid behaviour contributing to a negative financial situation. Hence, there was a tendency to reduce negative financial activities among the better health status client. Sweet, Nandi, Adam, and McDade (2013) who studied the relationships of multiple indices of financial debt with psychological and general health contended that poor financial practices which eventually leads to high financial debt was associated with higher perceived stress and depression, poor self-reported general health and higher diastolic blood pressure. Furthermore, the study on the association between aggregate household debt and aggregate health outcomes among European countries from 1995 to 2012 revealed that aggregate household debt did affect health (Clayton, Linares-Zegarra, and Wilson, 2015). These findings revealed generally poor financial practices can lead to financial problem such as financial debt which did affect individuals' physical health.

3. Research Methodology

The cross-sectional design and quantitative study focused on Malaysian public sector employees. Four states selected from four zones in Peninsular Malaysia were sampled via multistage random sampling to obtain a targeted number of 500 respondents. Selected departments in those states were contacted to appoint liaison officers who facilitated the data collection process. A questionnaire was developed as the instrument of this study to obtain information on the behavioural aspects of finance among the employees. Apart from socioeconomic characteristics, data on financial practices involvement, physical health status and financial health were collected.

Financial health was measured using the Malaysian Personal Financial Well-being scale (MPFW) developed by Garman and Jariah in 2006 (Jariah, 2007). Joo (1998) stated financial well-being as a level of financial health. Satisfaction with material and non-material aspects of one's financial situation are included. In addition, it comprises of perception on financial stability in terms of the adequacy of financial resources and the objective amount of financial resources that each individual possesses. The MPFW scale consists of 12 statements with 10 different responses however the higher the score, the better is the financial health. For the financial practices which were indicated by 30 statements comprised of dimensions such as planning finances, cash-flow, savings, credit management, investment and insurance. The statements were adapted from various past studies such as from Kapoor and Dlabay (2004), Hilgert, Hogarth, and Beverly (2003), O'Neill (2002), Xiao, Newman, Prochaska, Leon, Bassett, and Johnson (2004), and Hogarth and Anguelov (2004).

Physical health were determined using SF-36 (Stewart, Hayes, and Ware, 1988) which measured eight concepts that were physical functioning (PF), role limitations due to physical health (RP), bodily pain (BP), general health perceptions (GH), vitality (VT), social functioning (SF), role limitations due to emotional problems (RE) and general mental health (MH). Three measures consisting of physical functioning, role physical and bodily pain were used as the primarily measures of physical health, while the other three scales were the primarily measures of mental health. Two aggregate measures of health were constructed from the eight scales which were the two summary measures of physical (PCS) and mental (MCS) healths.

High scores for any of the scales can be interpreted as having a better health in the specific aspect. An individual is very limited in all activities including bathing and dressing who have a low scoring of the physical functioning (PF) scale. The SF-36 scales and summary measures were scored according to formulas so that they are on the same metric. A score of 50 is the mean for the US general population and 10 is the standard deviation. Health status as measured by the eight scales of primary measures and aggregate measures in SF-36 were calculated for PCS and MCS summary measures as explained in the manual (Ware, Snow, Kosinski, and Gandek, 1993).

After developing the questionnaire, approval by the university's ethic committee for data collection involving human beings was sought. Departments selected in the four states based on the lists of public departments obtained from ministries' websites were contacted to seek for their consent to participate in the data collection. Self-administered questionnaires were distributed at their work-place and were collected later resulting in 356 usable questionnaires.

Descriptive analyses presenting percentage and mean were used to describe the data. Pearson correlation and t-test were conducted to determine the relationships between variables and the differences in financial health based on socioeconomic characteristics. Significant factors influencing financial health were identified via a multiple regression. Validity and reliability were ascertained through pre-test, factor analysis and high Cronbach alpha values for the financial practices dimensions. Normality of the data distributions for each dimensions of financial practices were also assessed and confirmed before parametric test such as Pearson correlation, t-test and multiple regression were conducted.

4. Results and Discussion

4.1 Socio-economic Characteristics of the Respondents

As displayed in Table 1, female respondents were more than male respondents comprising of two-third female and only one-third of male. In terms of working experience, there were an equal number of less experienced and experienced workers. Most of them were married (85.7%) with slightly more than half aged below 40 years old which is considered as young workers (58.6%). As for the education's back-ground, almost two-third of the respondents were non-graduates (63.2%) and earned monthly household income of less than RM3,500 (60.1%).

This amount of income would only be sufficient to fulfill basic needs for the Malaysian families whereby the mean monthly household consumption expenditure is RM3,578 from the Household Expenditure Survey 2014 (Malaysian Department of Statistics, 2014). As this study involved urban areas, most of them faced a higher household expenses and the majority earning RM3,500 may have a tight budget. Only a small percentage of the respondents had monthly household income of more than RM5,000 (17.5%).

Table 1: Socio-economic Characteristics of the Respondents

Socioeconomic Characteristics		Frequency (N = 356)	Percentage (%)
Gender	Male	123	34.7
	Female	231	65.3
Marital Status	Unmarried	51	14.3
	Married	305	85.7
Age	20 - 29 years	63	17.8
	30 - 39 years	144	40.8
	40 - 49 years	62	17.6
	50 -59 years	84	23.8
	Mean age = 38.9; Age range = 21 to 59		
Work Experience	0 to 10 years	178	50.0
	More than 10 years	178	50.0
Education	Non-graduate	225	63.2
	Graduate	131	36.8
Household Income	< RM750	7	2.0
	RM750 - < RM1,500	45	12.9
	RM1,500 - < RM2,500	79	22.6
	RM2,500 - < RM3,500	79	22.6
	RM3,500 - < RM5,000	78	22.3
	RM5,000 - < RM7,500	39	11.2
	RM7,500 - < RM10,000	13	3.7
≥ RM10,000	9	2.6	

This shows that less than 17.5 percent of these respondents earned more than the Malaysian mean household income of RM6,141 based on the Report of Household Income and Basic Amenities Survey 2014 (Malaysian Department of Statistics, 2014). In addition, there were two percent of the respondents earning monthly household income of less than RM750 which is considered as 'poor'. Households having average monthly income of less than RM760 in Peninsular Malaysia are categorised as poor as the consumption of these people are below certain standards of consumption which are deemed necessary to maintain 'decency' in society.

4.2 Financial Health

The mean scores for financial health measured by Malaysian Personal Financial Well-being are displayed in Table 2. Higher score towards 10 represents better financial health while lower score towards 1 represents poorer financial health. Among all the aspects of financial health, paying utility bills such as electricity, water or telephone bills (mean = 7.92) had the highest mean score reflecting that most of them could pay the bills. As this is among the basic expenses, usually this aspect is given priority and

is being settled first. The lowest score was observed for the statement on the extent of their worry about their financial situation on that day (mean = 4.63) which means that they were slightly worried about their current financial situation. This reflects that their daily lives are in a good financial status.

Table 2: Mean Score for Financial Health

No.	Statement	Mean Score (1 to 10)
1	Mark with a circle that represents your satisfaction with your present financial well-being.	6.11
2	How worried or concerned are you about your personal finances today?	4.63
3	How well off are you financially?	6.21
4	Which of the following best describes your current financial well-being in terms of adequacy?	6.30
5	How do you feel about your current financial well-being?	6.31
6	How sure are you that you will have enough money to provide for a comfortable old age?	6.00
7	How often does your last pay run out before the next payday?	6.63
8	How often do you have trouble paying monthly bills (electricity, telephone, instalment, credit card)?	7.92
9	How confident are you that you have control over your personal finances?	6.40
10	How confident are you that you know how to manage personal finances?	6.39
11	How easy would it be for you to get money to pay for a financial emergency that costs RM1, 000?	5.75
12	How worried or concerned are you about your personal finances in general?	5.87
Overall mean		6.21

* Higher scores reflect better financial health

Most of the scores for the statements asked regarding various aspects of financial health such as satisfaction towards current financial situation (mean = 6.11), financially good (mean = 6.21), confidence in their financial control (mean = 6.40) or confidence in their capability to manage their finances (mean = 6.39) were at the moderate levels. This means that they were moderately good in those aspects of financial health. Thus the overall mean for financial health results at a moderate level of 6.21.

4.3 Physical Health

Health measurements for the primarily measures and aggregate measures are displayed in Table 3. Lower score of health measures portrays the health risks among the employees while higher score of health measures reflects better health status in the specific aspect with a cut-off point at 50.

Table 3: Mean Score for Physical Health

Health Measures	Mean	Standard Deviation
<i>Primarily Measures</i>		
	(0 to 100)	
PF	75.5746	21.41816
RP	67.9906	35.66817
BP	66.8906	19.59210
GH	61.9690	16.42187
VT	47.2912	6.44630
SF	76.5708	21.37669
RE	70.6386	34.86698
MH	51.2980	10.10701
<i>Aggregate Measures</i>		
PCS	49.8983	9.63580
MCS	42.7017	8.16499

The SF-36 scale of health measure consists of the primarily measures which are the physical functioning (PF), role physical (RP), bodily pain (BP), general health perceptions (GH), vitality (VT), social functioning (SF), role limitations due to emotional problems (RE) and general mental health (MH). Physical functioning, role physical and bodily pain are the primarily measures of physical health, while the other three scales (social functioning (SF), role limitations due to emotional problems (RE) and general mental health (MH)) are the primarily measures of mental health. Aggregate measures of health are the two summary measures of physical (PCS) and mental (MCS) healths.

Generally, the primarily health measure scales gave quite high scores as expected since the respondents were at their work-place during the data collection. However, the respondent scored lowest for the two primarily measures of health which are vitality (VT = 47.2912) which is below the border of 50 and general mental health (MH = 51.2980) which is only slightly above the border score. Most of the respondents expressed low vitality which means that they felt they had less energy, tired or worn-out. In terms of general mental health, the low scores reflected that they were too worry or too sad. Among other primarily measures, physical functioning (PF = 75.5746) and social functioning (SF = 76.5708) scored the two highest. These

measures confirmed on their high ability to carry heavy things, climbing the stairs, bathing or dressing. Furthermore, their social activities were not much limited by their physical or emotional health respectively.

Specific formulas were applied to calculate the PCS and MCS measures resulted in a moderate level of health status in terms of the physical and mental healths. The overall level for aggregates of three primarily measures of physical health consisting of physical functioning (PF), role physical (RP) and bodily pain (BP) were presented as the moderate level of physical health (PCS) (mean = 49.9). As for mental health (MCS), it gave the overall level for aggregates of the other three primarily measures of mental health scales (SF, RE and MH) which was at the moderate level (mean = 42.7). Hence, both aggregate measures were slightly below norm value of 50. Though the public sector's employees were studied during working hours at their departments, their health status was only at the moderate level. In this situation, the management should be aware of the health status of their employees as it will eventually have an effect on their job performance in the long-run.

4.4 Financial Practices

Table 4 shows the responses to the six dimensions of financial practices that resulted from a factor analysis. Majority (44.6 to 69.2%) of the respondents were found to be always planning their finances for all aspects of planning, savings either for short-term (71.6%) and long-term savings (74.5%). Majority of the employees also involved in cash-flow activities such as doing a written budget (55.5%), spending accordingly to budget (66.6%) and comparing spending with budget (73.1%).

Table 4: Dimensions of Financial Practices

Dimensions	Never	Sometimes	Always
Planning Finances (Mean=23.14; SD=6.39; Range=7-35; Mid-point=21)	%	%	%
Planning the finances need for automobile purchase	6.8	38.4	54.8
Planning before taking any credit/loan	6.2	24.6	69.2
Planning to purchase adequate insurance for big items and family	16.9	38.5	44.6
Planning before involved in investment	19.3	30.8	49.9
Planning to minimize taxes	22.6	31.9	45.5
Do estate planning	24.3	33.0	42.6
Planning financially for retirement	4.8	29.4	65.8
Cash-flow (Mean=14.31; SD=3.11; Range=4-20; Mid-point=12)			

Do a written budgeting/spending plan for all needs	7.9	36.6	55.5
Spend accordingly to the written budget	4.5	28.9	66.6
Compare actual spending with the budget	1.1	25.7	73.1
Keep a complete set of financial records	11.6	49.0	39.4
Savings			
(Mean=11.63; SD=2.33; Range=3-15; Mid-point=9)			
Plan to save in emergency fund	1.7	27.7	70.6
Save for emergency purposes	1.1	27.1	71.6
Save for long-term goals	2.0	23.5	74.5
Credit Management			
(Mean=10.59; SD=2.73; Range=3-15; Mid-point=9)			
Have a list of credit/loan applied	10.8	45.3	43.9
Keep records of credit/loan repayment	7.9	34.9	57.2
Credit/loan repayment paid accordingly to schedule	5.4	23.5	71.1
Investment			
(Mean=6.92; SD=2.84; Range=3-15; Mid-point=9)			
Invest in various type of investments	30.0	52.9	41.9
Invest in unit trust	22.4	45.0	32.6
Invest in company shares	58.1	34.3	7.6
Insurance			
(Mean=11.88; SD=4.15; Range=4-20; Mid-point=12)			
Insurance/takaful purchased for automobile/house	15.0	28.0	57.0
Life or health insurance/takaful purchased for oneself	24.4	30.9	44.7
Life or health insurance/takaful purchased for family members	30.0	31.4	38.5
Insurance/takaful purchased for credit/loan	33.7	36.3	30.0

Their loans were managed efficiently by majority of them in terms of keeping records of loan repayment (57.2%) and to ensure repayment of loan were made according to schedule (71.1%). Referring to the mean score for each dimension, planning finances, cash-flow, savings and credit management shows higher than the mid-point of the dimensions which reflect higher than average for those activities. Thus, among the dimensions of financial practices, planning the finances, cash-flow, savings and credit management are considered as the most popular practices for the employees.

In terms of purchasing insurance, majority purchased insurances for automobile/house (57.0%), life insurance for oneself (44.7%) and life insurance for family members (38.5%) as compared to majority of them sometimes purchased insurance for loan (36.3%). This shows that they consider compensating the risks that they may have less control as opposed to loans that they may be able to pay as scheduled. Insurance purchasing was found to be at the moderate level based on the mean score which is near the mid-point of the score.

As for investment instead, this practice was found to be not a popular activity considering the mean score which was quite far below the mid-point of the score. Majority (52.9%) of them sometimes invested in various types of investment or invested in unit trust as opposed to investing in company shares where majority (58.1%) never invested. Among all the financial practices, investing in company shares is the only financial practice that was found to have majority (58.1%) of the respondent never investing in it. This revealed that investing in company shares is not popular among the public sector employees due to the higher expected risk though the expected return may be higher. Even for the lower expected risk as for unit trust, the employees are not really keen in investing.

4.5 Physical Health and Financial Health

The relationships between physical health dimensions and financial health are displayed in Table 5. Among the dimensions, bodily pain (BP) ($r = 0.285^{**}$; $p = 0.001$), general health perceptions (GH) ($r = 0.259^{**}$; $p = 0.001$), social functioning (SF) ($r = 0.271$; $p = 0.001$), role limitations due to emotional problems (RE) ($r = 0.213$; $p = 0.001$), and general mental health (MH) ($r = 0.127^{*}$; $p = 0.029$) were found to be significant in relation to the physical health. Other dimensions such as physical functioning (PF) ($r = 0.070$; $p = 0.230$), role physical (RP) ($r = 0.087$; $p = 0.136$) and vitality (VT) ($r = 0.095$; $p = 0.103$) were not found to have any significant correlation with the physical health of the respondents.

Aggregate measures of health which are the two summary measures of physical (PCS) ($r = 0.131^{*}$; $p = 0.025$) and mental (MCS) ($r = 0.216^{**}$; $p = 0.001$) healths were found to be significantly related to financial health. However physical health which consists of physical functioning (PF), role physical (RP) and bodily pain (BP) was significant at a lower level of confidence level of 95 percent as compared to mental health. Mental health (MCS) which consists of three scales (social functioning (SF), role limitations due to emotional problems (RE) and general mental health (MH)) had a higher confidence level of 99 percent. In terms of the relationship with financial health, mental health was found to be slightly more important than physical health. Those that have better mental health would perceive that their financial healths are better.

Table 5: Relationship Between Physical Health and Financial Health

Dimension	R	p
PF	0.070	0.230
RP	0.087	0.136
BP	0.285**	0.000
GH	0.259**	0.000
VT	0.095	0.103
SF	0.271**	0.000
RE	0.213**	0.000
MH	0.127*	0.029
PCS	0.131*	0.025
MCS	0.216**	0.000

* Sig. $p \leq 0.05$ ** Sig. $p \leq 0.01$

4.6 Financial Practices and Financial Health

Table 6 displays the relationships between financial practices dimensions and financial health measured by Malaysian Personal Financial Well-Being. Five dimensions of financial practices were found to be significantly related to financial health that were planning finances ($r = 0.249^{**}$; $p = 0.001$), cash-flow ($r = 0.307^{**}$; $p = 0.001$), savings ($r = 0.364^{**}$; $p = 0.001$), credit management ($r = 0.258^{**}$; $p = 0.001$) and insurance ($r = 0.191^{**}$; $p = 0.001$).

Table 6: Relationships Between Financial Practices and Financial Health

Dimension	r	P
Planning finances	0.249**	0.001
Cash-flow	0.307**	0.001
Savings	0.364**	0.001
Credit management	0.258**	0.001
Investment	0.061	0.251
Insurance	0.191**	0.001

* Sig. $p \leq 0.05$ ** Sig. $p \leq 0.01$

Hence, among the financial practices dimensions, investment ($r = 0.061$; $p = 0.251$) was found to be not significantly related to financial health. It reflected that this financial practice was not as important as other financial practices such as savings plan or managing credit to the financial health. Savings for short-term or long-term

may contribute to the ability to fulfill financial goals targeted and financial emergencies. Managing credit well on the other hand may reduce the unnecessary costs associated to overdue cost of credit or loan repayment.

4.7 Differences in Financial Health Based on Socio-economic Characteristics

The differences in financial health scores based on socio-economic characteristics are shown in Table 7. Older employees (mean = 80.2) with higher income (mean = 82.7) were revealed to have significantly higher financial health as compared to younger (mean = 70.5) and lower income (mean = 68.7) employees. Though females and graduates among the respondents have better financial health, the differences of financial health with males and non-graduates were found to be not significant. Thus, financial health cannot be differentiated by gender and education back-ground however age and their income significantly differentiate the respondents.

Older employees may have accumulated enough assets in terms of fixed asset such as housing and financial assets like savings to be in the better financial health due to the longer working tenure as compared to younger employees. Furthermore, with seniority in the work force in public sector agencies, the older employees stand better chances in getting the promotion associated with higher salaries as compared to younger employees. Thus, with higher income, employees will most probably be able to fulfill their financial needs and be healthier financially.

Table 7: Differences in Financial Health Based on Socio-economic Characteristics

Category	n	Mean score	Financial Health	
			t	p
Gender				
Male	123	72.1463	-1.716	0.087
Female	230	75.5174		
Age (year)				
< 40	215	70.5116	-5.413**	0.000
≥ 40	137	80.2409		
Education				
Non-graduate	220	73.8318	-0.676	0.499
Graduate	131	75.1527		
Monthly income				
< RM 3,500	210	68.7095	-8.103**	0.000
≥ RM 3,500	138	82.7174		

* Sig. $p \leq 0.05$

** Sig. $p \leq 0.01$

4.8 Factors Influencing Financial Health

As displayed in Table 8, potential factors namely socioeconomic characteristics, financial practices and health measurements (PCS and MCS) influencing financial health were regressed and significant factors were revealed. Before interpreting the results further, the fitness of the model was assessed and resulted in a valid ($F = 18.110^{**}$; $p = 0.001$) and fit model with an R square of 0.372. The adjusted R square was 0.352. The variables in the model that consists of selected socioeconomic characteristics namely age and income, dimensions of financial practices and physical health factors were able to explain 37.2 percent of the variance in financial health. In addition, multicollinearity assessment proved that the tolerance and VIF values for the model conformed to the suggested values and the model was free from multicollinearity issue.

Table 8: Multiple Regression for Financial Health

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	S.E.	Beta			Tol.	VIF
(Constant)	-0.069	8.095		-0.009	.993		
Age	0.481	0.091	.276	5.311**	.001	.848	1.179
Household income \geq RM3,500	9.177	1.904	.252	4.820**	.001	.836	1.196
Planning of finances	0.123	0.186	.042	0.659	.510	.556	1.798
Cash-flow	0.642	0.384	.110	1.674	.095	.525	1.903
Savings	1.481	0.493	.188	3.006**	.003	.584	1.713
Credit	0.573	0.401	.085	1.430	.154	.649	1.540
Insurance	0.037	0.246	.009	0.151	.880	.716	1.397
PCS	0.207	0.096	.109	2.162*	.032	.891	1.122
MCS	0.145	0.113	.066	1.290	.198	.879	1.138

* Sig. $p \leq 0.05$

** Sig. $p \leq 0.01$

Age and household income which were found to be significant in relation to financial health in the bivariate analyses retained the significance in the multiple regression output. These indicate that age ($\beta = 0.276$; $p = 0.001$) and household income ($\beta = 0.252$; $p = 0.001$) are important factors in influencing financial health among employees especially for the public sector workers and in fact among the most influential factors on financial health with age having the strongest influence. This reflects that time-frame is critical in the outcome of a better financial health. For public sector employee, most of them joined the public work force not long upon possessing

their certificates or degree. Hence, age may be able to represent the duration of income earning and obtaining larger cash in-flow for the older employee. Having more resources would enable older employee to fulfill their short-term and long-term needs and goals, leading to better financial health. Past studies obtained consistent results for the effect of income on financial satisfaction or financial adequacy (Husniyah et al., 2005; Husniyah et al., 2016; Johnson and Krueger, 2006; Mohamad Fazli et al., 2008; Plagnol, 2010).

Only one dimension of financial practices namely savings ($\beta = 0.188$; $p = 0.003$) was found as the third strongest factor influencing financial health. A longer duration depending on the age of the employee contributes to the financial health which may be the result of making long-term savings. A steady income and increment in income throughout their working tenure enables them to plan ahead for their finances. Certainty in the flow of income in the long-run gives advantage to these employees to set achievable financial goals where savings are possible. The ability to set money aside may lead to a better financial health status. Similar results were obtained from past studies by Xiao et al. (2014) and Stromback et al. (2017).

Apart from the effect of savings on financial health, physical health (PCS) ($\beta = 0.109$; $p = 0.032$) was found to be significantly influencing financial health but not for mental health (MCS). However, the significance of the effect was only at a lower confidence level which is at the 95 percent. Though past studies consistently focused on the effect of financial health on physical health, the opposite effect of physical health on financial health is proven. A better health condition of the employees would lead to a better financial health which may be due to the ability of the employees to maximize their human capital as a result of being healthy as opposed to being sick. Vice-versa, poorer health condition of the employees would lead to a poorer financial health. This is consistent with Lyons and Yilmazer (2005) where poor health significantly increased the likelihood of financial strain among the consumers. The justification on how physical health can affect financial health had been explained earlier.

As working requires employees to be physically fit to perform their tasks, it is not surprising to obtain significant result for physical measure of health on financial health. Healthy employees physically may lead to a better job performance which can be compensated through faster promotions or awards of performance providing higher earnings that may contribute to better financial health. As for the mental health which was found as not significant in influencing financial health, it seems that it is not certain that the mental state of the employee has any influence on financial health. Whether the employee is mentally stable or not, it is uncertain of its effect on financial health.

5. Conclusion and Implication

Financial health of the respondents was at the moderate level while health risks were prevalent from the physical and mental measures of health with PCS and MCS slightly below the border of 50. Majority of the respondents plan their finances, make record of their expenses, do savings and purchasing insurance. Among the financial practices, investment was found to be not significantly related to financial health. This reflected that this financial practice is not as important as other financial practices such as

savings plan or managing credit to the financial health. Older employees with higher income were revealed to have higher financial health as compared to younger and lower income employees. Regression results revealed older employees, higher income and savings influence financial health. In addition only physical measures of health (PCS) and not mental health (MCS) influence financial health of employees.

As majority of the employees were young, the health risks may pose a risk on their job productivity and the impact on quality of public services. Thus, it is critical for the government to foresee these health risks and financial health situation of their employees to ensure better outcomes for the public and country. As what have been practiced by some government agencies, reminder to do medical check-up regularly at specific age should have been done by the human resource department in each public sector agency. Critical illness that may not surfaced earlier but until almost at the final stage can be identified for earlier treatment before getting worse. Employees themselves might not realise the reasons of their low job performance are due to unfit health status.

Financial practices that would lead to better financial health are supposed to be enhanced by the employees. Intervention program of financial education by employers can assist the employees in elevating their financial health by making them aware of the importance of savings either for the short-term and long-term financial goals. Due to the negative impacts of deteriorating personal financial health among employees on workplace productivity, recommendations have been made regarding workplace financial education (Delafrooz, Masud, Paim, and Sabri, 2010; Loibl and Hira, 2005). Physically healthy and financially healthy employees would contribute to a better job performance and higher productivity which benefit the public sector services and the country as a whole.

References

- Ajala, M. E. (2012). The influence of workplace environment on workers' welfare, performance and productivity. *The African Symposium*, 12(1), 141-149.
- Altfest, L. (2004). Personal financial planning: origins, developments and a plan for future direction. *The American Economist*, 48(2), 53-60.
- Attridge, M. (2009). Measuring and managing employee work engagement: A review of the research and business literature. *Journal of Workplace Behavioral Health*, 24(4), 383-398.
- Bank Negara Malaysia. (2015). *Annual Report 2015*. Kuala Lumpur: Bank Negara Malaysia.
- Clayton, M., Linares-Zegarra, J., & Wilson, J. O. S. (2015). Does debt affect health? Cross country evidence on the debt-health nexus. *Journal of Social Science and Medicine*, 130, 51-58.
- Collins, J. M. & Dietrich, D. L. (2011). Educating the experts: Online financial education for credit union employees. *Consumer Interests Annual*, 57, 101-112.
- Consumer Financial Protection Bureau. (2015). Financial well-being: The goal of financial education. Downloaded on 9 October 2017 from http://files.consumerfinance.gov/f/201501_cfpb_report_financial-well-being.pdf
- Deacon, R. E. & Firebaugh, F. M. (1988). *Family Resource Management: Principles and Applications* (2nd ed.). Boston, MA: Allyn and Bacon, Inc.

- Delafrooz, N. & Laily, P. (2011). Determinants of financial wellness among Malaysia workers. *African Journal of Business Management*, 5(24), 10092-10100.
- Delafrooz, N., Paim, L., Sabri, M. F., & Masud, J. (2010). Effect of financial wellness on the relationship between financial problem and workplace productivity. *World Applied Sciences Journal*, 10(8), 871-878.
- Hilgert, M. A., Hogarth, J. M., & Beverly, S. G. (2003). Household financial management: The connection between knowledge and behavior. *Federal Reserve Bulletin*, 89, 309-332.
- Hogarth, J. M. & Anguelov, C. E. (2004). Are families who use e-banking better financial managers? *National Endowment for Financial Education*, 19, 1-34.
- Hojman, D. A., Miranda, A., & Ruiz-Tagle, J. (2016). Debt trajectories and mental health. *Social Science & Medicine*, 167 (October), 54-62.
- Husniyah, A. R., Mohd. Amim, O., Mohd. Fazli, S., & Zuroni, M. J. (2016). Influential predictors for financial adequacy among Malaysian public sector employees. *Australian Journal of Business and Economic Studies*, 2(1), March, 1-11.
- Husniyah, A. R., Mohd. Fazli, S., & Ahmad Hariza, H. (2005). Gelagat perancangan kewangan keluarga di Malaysia. *Malaysian Journal of Consumer and Family Economics*, 8, 27-39.
- Husniyah, A. R., Syuhaily, O., Mohd. Fazli, S., Mohd. Amim, O., & Ahmad Hariza, H. (2005). Perancangan dan amalan penggunaan kad kredit bagi pengguna di Malaysia. *Malaysian Journal of Consumer and Family Economics*, 8, Disember, 62-75.
- Jariah, M. (2007). Testing of Malaysia's financial well-being scale. Paper presented in the Seventh Biennial Conference 2007 ACFEA, 4-7 July 2007, Putrajaya.
- Joo, S. (1998). *Personal Financial Wellness and Worker Job Productivity*. Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University, Blacksburg.
- Joo, S. & Garman, E. T. (1998). The potential effects of workplace financial education based on the relationship between personal financial wellness and worker job productivity. In E. T. Garman, S. Joo, I. E. Leech, & D. C. Bagwell (Eds.), *Personal Finances and Worker Productivity*, Proceedings of the Personal Finance Employee Education Best Practices and Collaborations Conference, Roanoke, VA, 2(1), 163-174.
- Johnson, W. & Krueger, R. F. (2006). How money buys happiness: Genetic and environmental processes linking finances and life satisfaction. *Journal of Personality and Social Psychology*, 90, 680-691.
- Kapoor, J. R., Dlabay, L. R., & Hughes, R. J. (2004). *Personal Finance (7th Edition)*. New York: McGraw-Hill.
- Kim, H. & Lyons, A. C. (2008). No pain, no strain: Impact of health on the financial security of older Americans. *The Journal of Consumer Affairs*, 42(1), 9-36.
- Loibl, C. & Hira, T. K. (2005). Self-directed financial learning and financial satisfaction. *Financial Counseling and Planning*, 16(1), 11-21.
- Lyons, A. C. & Yilmazer, T. (2005). Health and financial strain: Evidence from the Survey of Consumer Finances. *Southern Economic Journal*, 71(4), 873-890.

- Malaysian Department of Insolvency. (2016). *Bankruptcy Cases*. Putrajaya: Malaysian Department of Insolvency.
- Malaysian Department of Statistics. (2014). *Household Expenditure Survey 2014*. Putrajaya: Department of Statistics.
- Malaysian Department of Statistics. (2014). *Report of Household Income and Basic Amenities Survey 2014*. Putrajaya: Department of Statistics.
- Mohd Fazli, S. & Falahati, L. (2013). Predictors of financial well-being among Malaysian employees: Examining the mediate effect of financial stress. *Journal of Emerging Economies and Islamic Research*, 1(3), 1-16.
- Mohamad Fazli, S., Jariah, M., Karen, K. H., & Laily, P. (2008). Personal financial wellness among Malaysian employees: Socio demographic comparison. *Consumer Interests Annual*, 54, 189-192.
- Plagnol, A. C. (2010). Financial satisfaction over the life course: The influence of assets and liabilities. *Journal of Economic Psychology*, doi:10.1016/j.joep.2010.10.006
- Mokhtar, N. & Husniyah, A. R. (2017). Determinants of financial well-being among public employees in Putrajaya, Malaysia. *Pertanika Journal of Social Sciences and Humanities*, 25(3), 1241-1260.
- O'Neill, B. (2002). Twelve key components of financial wellness. *Journal of Family and Consumer Sciences*, 94(4), 53-58.
- O'Neill, B., Prawitz, A. D., Sorhaindo, B., Kim, J., & Garman, E. T. (2006). Changes in health, negative financial events, and financial distress/financial well-being for debt management program clients. *Financial Counseling and Planning*, 17(2), 46-3.
- Richardson, T., Elliott, P., & Roberts, R. (2013). The relationship between personal unsecured debt and mental and physical health: A systematic review and meta-analysis. *Clinical Psychology Review*, 33(8), 1148-1162.
- Stewart, A. L., Hays, R. D., & Ware, J. E. (1988). The MOS Short-form General Health Survey: Reliability and validity in a patient population. *Medical Care*, 26, 724-735.
- Stromback, C., Lind, T., Skagerlund, K., Vastfjall, D., & Tinghog, G. (2017). Does self-control predict financial behavior and financial well-being. *Journal of Behavioral and Experimental Finance*, 14, 30-38.
- Sweet, E., Nandi, A., Adam, E. K., & McDade, T. W. (2013). The high price of debt: Household financial debt and its impact on mental and physical health. *Journal of Social Science and Medicine*, 91, 94-100.
- Ware, J. E., Snow, K. K., Kosinski, M., & Gandek, B. (1993). *SF-36 Health Survey Manual and Interpretation Guide*. Boston: The Health Institute.
- Xiao, J. J., Chen, C., & Chen, F. (2014). Consumer financial capability and financial satisfaction. *Journal of Social Indicators Research*, 118, 415-432.
- Xiao, J. J., Newman, B. M., Prochaska, J. M., Leon, B., Bassett, R., & Johnson, J. L. (2004). Applying the transtheoretical model of change to debt reducing behavior. *Financial Counseling and Planning*, 15(2), 89-100.
- Xiao, J. J. & Porto, N. (2017). Financial education and financial satisfaction: Financial literacy, behavior, and capability as mediators. *International Journal of Bank Marketing*, 35(5), 805-817.

Zaimah, R., Masud, J., Haron, S. A., Othman, M., Awang, A. H., & Sarmila, M. D. (2013). Financial well-being: Financial ratio analysis of married public sector workers in Malaysia. *Asian Social Science*, 9(14 SPL), 1-6.