

Factors influencing young adults' debt in Malaysia

Azira Abdul Adzis

Juhaida Abu Bakar

Hanita Kadir Shahar

University Utara Malaysia, Malaysia

Keywords

Debt, Young adults, Malaysia, Money management skills, Materialism, Income

Abstract

This study explores factors affecting debt level among young adults in Malaysia. Previous studies have linked material values, money management skills, and economic factors to credit card debt and student debt, but this study extends the previous research by investigating various forms of consumers' debt in an emerging market where vulnerable youths are frequently bombarded with materialistic media messages that trigger their spending behaviour. In particular, variables such as pursuits of materialistic attitudes, money management attributes, and income level are examined in this study to see whether they are predictors of youth debt in Malaysia. A self-administered survey on 629 respondents centered around northern part of Malaysia was conducted based on convenience and judgmental sampling techniques.

The findings suggest that money management skills and income level significantly influence the debt level of Malaysian young adults. Interestingly, materialism variable is insignificant, implying that young Malaysians represented in this sample do not possess materialistic attitude that lead to indebtedness. The findings provide insights to the policy maker and the government to inculcate awareness of basic money management skills to ensure that the younger generation does not fall into the state of excessive debt which could lead to financial insolvency.

Corresponding author: Azira Abdul Adzis

Email address for corresponding author: azira@uum.edu.my

First submission received: 10th March 2017

Revised submission received: 1st May 2017

Accepted: 28th July 2017

Acknowledgements

We are most thankful to University Utara Malaysia who funded this research under the University Grant 2015 scheme.

1. Introduction

Malaysia was reported as having high household debt to gross domestic product (GDP), reaching 89.1% in 2015 from around 60% in 2008 (Bank Negara Financial Stability and Payments System Report, 2015). The Star newspaper dated 22 June 2015 reported that close to 25,000 Malaysians below age 35 have become bankrupt since 2010. Most of the bankruptcy cases in Malaysia were primarily caused by the inability to sustain debt due to hire purchase transaction, mortgage, personal loans, being a guarantor, and credit card debt trap. The same article reported that a survey done by the Federation of Malaysian Consumers Associations (FOMCA) in 2013 revealed that 37% of young Malaysians were found to be living beyond their means while 47% used more than one-third of their monthly income to settle debts. Implicitly, this suggests that on average young Malaysians are committing to higher debt levels beyond their means. The friendly credit environment or the ease of obtaining credit facilities is often the blame for mismanagement of financial resources such as overspending and over borrowing that are very likely to increase the probability of financial insolvency.

The issue of household debt has received great amount of interest from researchers. Previous literature suggests that there are several factors that may influence the level of debt among households, among others are: 1) materialism (Ponchio and Aranha, 2008; Nga et al. 2011; Gardarsdottir and Dittmar, 2012), 2) money management skills (Elliot, 2005; Kim et al. 2003; Norvilitis et al. 2006; Donnelly et al. 2012) and 3) income level (Robb and Woodyard, 2011; Gardarsdóttir and Dittmar, 2012; Min-Yen Teoh et al. 2013). Generally, the findings indicate that people who are highly materialistic will have higher level of debt, people who have good money management skills will have lower debt, and people with lower income level will have higher debt.

Most of the previous studies however, focus on credit card debt and student debt, in which the findings may not be generalizable to other types of consumer debt such as housing loan, personal loan, and hire purchase loan. In addition, there are limited studies that investigate factors that contribute to consumer debts in Malaysia particularly among young adults. According to Alias et al. (2010), Malaysians like to spend although the prices of goods and services are relatively high. In addition, a study by Ahmad and Omar (2016) reveals that 25 percent individuals who have high credit card debts in Malaysia usually have poor financial planning skills. The same study also reveals that young professional aged 30-40 years are faced with credit card default due to unnecessary spending.

In this respect, the Geert Hofstede's dimensional model of culture reveals that the indulgence score of Malaysia is higher than other countries in Southeast Asia including Singapore. Indulgence is defined as the willingness of societies to realize their impulses and desires with regard to enjoying life and having fun (Hofstede, 2001). The high indulgence score implies that Malaysians tend to place a higher degree of importance on leisure time, act as they please, and spend money as they wish. This kind of culture may contribute to the high level of debt among Malaysians particularly the young ones.

Thus, this study extends the existing studies by focusing on general public samples, which are young Malaysians within the age of 18-35 years and include various types of consumer debt to measure debt level such as credit card, housing loan, hire purchase loan, personal loan, and education loan. This study poses one big question: Do materialism, money management skills, and income level influence the amount of debt of young adults in Malaysia? Accordingly, the aim of this study is to examine whether they determine young adults' debt in Malaysia.

2 Literature review and hypothesis development

2.1 Materialism and debt

Materialism can be defined as the centrality of possession and acquisition in consumers' lives (Richins and Dawson, 1992) and the possession of material goods in achieving major life goals (Richins, 2004). In relation to this, materialists can be defined as consumers who are constantly looking for their next unnecessary purchase (Fournier and Richins, 1991; Richins and Dawson, 1992). There are several studies that examine the relationship between materialism and debt. Watson (1998) concludes that people who are highly materialistic have more favourable attitudes toward spending as well as more favourable attitudes toward debt than people with low levels of materialism. The sample consists of 299 students from a university in New Zealand.

Pinto et al. (2000) investigate students' attitudes toward use of credit and their credit card balances. The findings suggest that students who scored higher on materialism had more favourable attitudes toward spending. Watson (2003) examines how people with differing levels of materialism vary in their propensity to spend and/or save and their attitudes and behaviours toward borrowing money. The findings suggest that there is a positive relationship between materialism and the tendency to spend. In addition, highly materialistic respondents had more favourable attitudes toward borrowing money (particularly for luxury purchases), and were more likely to use instalment credit and had loans of more than \$1000. In contrast, people with low levels of materialism were more likely to invest in stocks or bonds and have mutual funds.

Norvilitis et al. (2006) explore factors hypothesized to be causes and effects of credit-card debt among college students in the United States. Lack of financial knowledge, age, number of credit cards, delay of gratification, and attitudes toward credit-card use were factors related to debt. In contrast, the factors such as sensation seeking, materialism, the student attitude toward debt scale, gender, and grade point average were not unique predictors of debt. Results highlight the need for comprehensive financial literacy education among college students.

Ponchio and Aranha (2008) explore the influence of materialism on consumer indebtedness among low income individuals who live in poor regions of Sao Paulo. The findings highlight that materialistic people who lived in poverty were willing to enter into an expensive credit agreement in order to achieve the material good life depicted in the lives of the more affluent people around them. Nga et al. (2011) examine whether materialism and compulsive spending mediates the relationship between image consciousness and credit card usage intentions among students at private college in Subang Jaya, Malaysia. The findings reveal that materialism is a partial mediator in the relationship between image consciousness and compulsive spending.

Gardarsdottir and Dittmar (2012) investigate the association of materialism and indicators of financial well-being such as amount of debt, financial worries, spending tendency, money-management skills and compulsive buying. The results show that people who endorse materialistic values have more financial worries, worse money-management skills, and greater tendency towards compulsive buying and spending. In addition, the findings further show that amount of debt including mortgage, can be directly linked to materialism, controlling for income, and money management skills. To summarize, previous studies relate materialism as one of the factors that contribute to the debt level among households. In this regard, this study hypothesizes that:

H1: Materialism positively influences the debt level of young adults in Malaysia

2.2 Money management skills and debt

Money management skills refer to management of financial resources such as planning, budgeting, and savings. Money management skills are found to be one of the significant psychological variables associated with the levels of debt (Lea et al. 1995). A common finding generated from previous studies is that poor money management skills are one of the predictors of debt (Elliot, 2005; Kim et al. 2003; Lea et al. 1995; Norvilitis et al. 2006); in which serious debtors often refer them as having weak money management styles (Walker et al. 1992). In addition, non-debtors claim that careless budgeting is one of the reasons why other people get into debt (Livingstone and Lunt, 1991). A recent study by Donnelly et al. (2012) reveals that money management skills negatively influence credit card debt among students where students who have good money management skills will have lower credit card debt. Accordingly, the second hypothesis of this study will be as follows:

H2: Money management skills negatively influence the debt level of young adults in Malaysia

2.3 Income and debt

In general, people with less income, fewer liquid assets, fewer investment assets, and fewer real assets are expected to be more likely to involve in debt (Berthoud and Kempson, 1992). Berthoud and Kempson (1992) further claim that people with higher income borrow more, those with lower income face more debt problems.

Lea et al. (1993) and Davis and Lea (1995) suggest that lower income group tend to have higher levels of debt, where in particular, the poorer people are, the more debts they face. Households with high liquid assets or high income are more likely to pay their debt in full each month (Canner and Cynrak, 1985; Zhang and DeVaney, 1999) whereas respondents with lower income are less likely to pay their bills on time (Hilgert et al. 2003).

In the case of credit card, households with less income, fewer liquid assets, fewer investment assets, and fewer real assets are expected to be more likely to revolve credit cards and to have a

larger outstanding credit card balance (Kim and Devaney, 2001). On the contrary, a recent study by Ming-Yen Teoh et al. (2013) reveals that lower income group is more cautious in their credit card expenditure while higher income group are spending more on their credit cards. Livingstone and Lunt (1992) and Kim and Devaney (2001) report that income is positively related to the amount of debt in United Kingdom and the United States, respectively. Robb and Woodyard (2011) find that certain negative financial behaviours, such as an overdraft on a checking account or failing to pay off a credit card are due to the income constraints. Therefore, income is identified in the previous literature as one of the important predictors of the level of debt. Thus, the study hypothesizes that:

H3: Income level significantly influences the debt level of young adults in Malaysia

In summary, Figure 1 demonstrates the conceptual model adopted in the study.

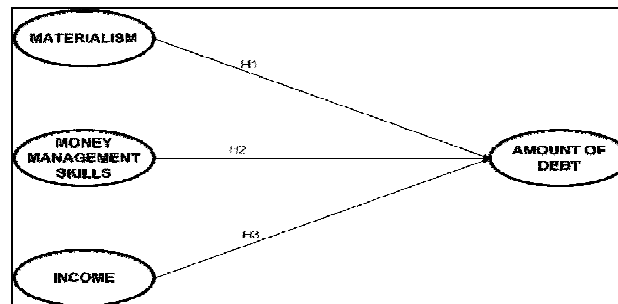


Figure 1: Conceptual model of factors influencing the amount of debt of Malaysian young adults

3. Methodology

3.1 Research design

A set of structured questionnaire was used for primary data collection. Questionnaire items were generated from an extensive review of the literature and items adopted were modified to fit the debt context. A seven-point Likert-type scale ranging from "1=strongly disagree" to "7= strongly agree" was adopted for measuring the variable items of materialism and money management skills whereas income is a self-reported measure of individual monthly income on a 7-point scale, ranging from less than RM1,000 to over RM11,000.

Pre-test was performed to verify face and content validity. In particular, an expert panel consisting of practitioner and academic reviewed the items to assess for relevance, readability, and ambiguity. For practitioner category, an interview with Alor Setar Head Branch of the Credit Counselling and Debt Management Agency was conducted in April 2016 to validate the questionnaire. As for academic category, the questionnaire was validated by senior lecturer in Finance at the School of Economics, Finance and Banking University Utara Malaysia. Few amendments to the questionnaire were made accordingly and the initial pool of items defining constructs was thus finalized for the next stage of the pre-test procedure. The questionnaire was pre-tested among a convenience sample of 50 young Malaysians aged between 18 to 35 years old. This was undertaken to ensure that there was no ambiguity in the survey instrument. All the respondents completed a pre-final draft of the questionnaire and were encouraged to give feedback in terms of clarity and time taken to complete the questionnaire.

Cronbach's alpha test was performed and the results showed no reliability alpha was below the threshold point of 0.60, demonstrating internal consistency (Nunnally and Bernstein, 1994). In the final process, minor modifications to the scales were made to ensure that the questionnaire would be effective for data collection and achieve the study's objectives. Two versions of the questionnaire, English and Malay, were made available to the respondents.

The structured questionnaire used for this study consists of four sections. Sections A and B asks respondents to rate their perceptions of factors that contribute to debt: materialism and money management skills. Eight-item representing materialism was adopted from Richins and Dawson (1992) and seven-item of money management was adopted from Lea et al. (1995) and Loke et al.

(2015). Section C sought to obtain information about the respondents' total debts which encompass how much loan they have for credit card, housing loan, hire purchase loan, personal loan, education loan and other types of loan. Section D, the final section, was designed to obtain socio-demographic profiles and information on the respondents' monthly savings amount and most importantly, their monthly income. To measure the level of income, this research followed Grable et al. (2009) by asking respondents to select their income level ranging from less than RM1, 000 to over RM11, 000. To measure the amount of debt, Z-score was employed to sum up the debt amount of each respondent.

Convenience and judgmental sampling were used for this study, given the exploratory nature of the study. The data was gathered at several places such as major shopping malls, higher educational institutions, office buildings, and other public places in northern states of Malaysia, which are Kedah and Perlis. Located near the border of southern Thailand, agriculture is the major economic activity of these 2 states. With the approximate population of 2.12 million in Kedah (1.08 million male and 1.04 million female) and 0.26 million in Perlis (0.13 million male and 0.13 million female), the mean monthly household's income for both states in 2014 is RM4,478 and RM4,445 respectively, which is below the national level (RM6,141).

The questionnaires were circulated in September 2016 on different days of the week, and at different times of the day to reduce location and timing biases (Bush and Hair, 1985). Participation of respondents was purely voluntary. The potential respondents must satisfy the following conditions: the respondent must be Malaysian, and aged between 18 to 35 years old. The age range is based on the age definition by Petry (2002), who defines age by three categories; young adults (18-35 years), middle-aged adults (36-55 years), and older adults (55 years and above). If a respondent did not meet these conditions during the initial screening, the survey will not be carried out.

A total of 670 self-administered questionnaires were distributed and returned over ten days with the help of a research assistant. Sekaran (2003) suggests that the main advantage of conducting a self-administered questionnaire is that researchers could collect all of the completed responses within a short time. Through the questionnaire conducted in this way, any doubts that respondents may have on any question can be immediately clarified. Of these, 24 were excluded due to incompleteness, giving a net response rate of 96 percent. For most studies, Babbie (2014) advises that a response rate of at least 50 percent is adequate for analysis and reporting, 60 percent is good, and 70 percent or more is very good. However, after data screening (missing data, outliers, and a normality test), 629 cases remained for subsequent analysis. The data were coded and run using the Statistical Package for Social Sciences (SPSS) version 22.0. Frequency tests were conducted on items in Section D. Multiple regression analysis was carried out to test the hypotheses.

4. Results and discussions

Descriptive statistics displayed in Table 1 indicate that the percentages of male and female respondents are almost equal, 51.5 percent being female and 48.5 percent being male. More than half of the respondents fall within the age brackets of between 18 and 25 (62.2 percent). Most respondents are Malay (81.9 percent), followed by Chinese (10.7 percent), Indian (7.3 percent) and other (0.2 percent). Majority of the respondents are employed (96.5 percent) and single (75.2 percent). About 33.1 percent of the respondents are working in the government sector, 38.2 percent work in the private sector, and 28.8 percent in another sector. In terms of education, respondents are mostly well educated as 68.7 percent completed a diploma/bachelor degree and 1.6 percent completed a postgraduate degree. Over 72.6 percent of the respondents have an income between the range of RM1, 000 to RM4, 999 whereas only 16 percent in the range of RM5, 000 to RM10, 999. 11.4 percent are reported to have income below RM1, 000 per month. In terms of savings, most of the respondents (56.5 percent) saved between RM100-RM499 with 30.4 percent saved less than RM100 per month. Only 1.1 percent saved more than RM1, 100 per month.

Demographic	Categories	<i>n</i>	%	Demographic	Categories	<i>n</i>	%
Gender	Male	301	48.5	Age	18-25	391	62.2
	Female	320	51.5		26-35	238	37.8
Race	Malay	515	81.9	Sector	Government	201	33.1
	Chinese	67	10.7		Private	232	38.2
	Indian	46	7.3		Other	175	28.8
	Other	1	0.2	Education	SPM	95	15.2
Marital status	Single	470	75.2		STPM	83	13.3
	Married	152	24.2		Diploma	173	27.8
	Single mother	2	0.3		Degree	255	40.9
	Divorced	1	0.2		Master	8	1.3
Income					PhD	2	0.3
	< RM1,000	71	11.4		Other	7	1.1
	RM1,000- RM2,999	269	43				
	RM3,000- RM4,999	185	29.6				
	RM5,000- RM6,999	77	12.3				
	RM7,000- RM8,999	18	2.9				
	RM9,000- RM10,999	5	0.8				
	>RM11,000	0	0				

Table 1: Demographic characteristics of the sample (n = 629)

Table 2 presents the mean and standard deviation together with Cronbach's alpha for the items used to measure materialism and money management skills. Overall, money management skills items score higher mean compared to the items measuring materialism. The mean of the money management skills items are above the midpoint of the scale. The lowest mean is 5.6121 for item "I am in control of my money" and the highest is 6.1129 for item "I think it is "cool" to be able to manage my money well". This finding demonstrates that most young adults represented in the sample agree with the positive statements about money management skills. Therefore, it is assumed that most of the respondents possess good money management skills.

In terms of materialism, the lowest mean is 3.6200 for item "I like to own things that impress people" and the highest is 4.8156 for item "I admire people who own expensive homes, cars, and clothes". On average, the mean of the materialism measured items are within the scale midpoint (mean = 4.3148). This suggests that the young adults represented in the sample have a neutral perception with respect to the materialism statements made in this study.

The Cronbach's alpha for the eight items for materialism and seven items for money management skills are greater than 0.60. This result indicates internal consistency of the variables (Nunnally and Bernstein, 1994; Churchill, 1979) and the questionnaire is considered to be reliable. Taken together with the face validity achieved, the data can be applied for further analysis.

Items	Mean*	SD	Cronbach's α
Materialism			
1. I like a lot of luxury in my life.	3.9857	1.75528	0.910
2. I like to drive imported car.	4.2258	1.72742	
3. I like to own things that impress people.	3.6200	1.82786	
4. I would be happier if I could afford to buy more things.	4.2099	1.57927	
5. It bothers me that I cannot afford to buy all things I like.	4.2703	1.62487	
6. The things I own say a lot about how well I am doing in life.	4.7568	1.57295	
7. My life would be better if I owned certain things I do not have.	4.6343	1.55775	
8. I admire people who own expensive homes, cars, and clothes.	4.8156	1.74241	
Money Management Skills			
1. I am in control of my money.	5.6121	1.13102	0.932
2. I accurately plan my expenses.	5.7234	1.10144	
3. I keep an eye on my cash flow.	5.6868	1.16429	
4. I follow a careful financial budget.	5.6916	1.12737	
5. I always know exactly how much money I owe.	5.8140	1.07167	
6. I think it is "cool" to be able to manage my money well.	6.1129	1.02437	
7. I keep track of my personal expenses in a systematic way.	5.7727	1.08880	
* <i>Seven-points scale: 1 = strongly disagree; 7 = strongly agree</i>			

Table 2: Means, standard deviation scores, and Cronbach's alpha for materialism and money management skills

Table 3 shows the results for the multiple regression analysis to examine the relationship between materialism, money management skills, income level, and amount of debt of Malaysian young adults. Variance Inflation Factor (VIF) test indicates the value of <10, suggesting that the issue of multicollinearity does not exist and that the variables can be used for regression analysis (Chatterjee et al. 2000). The R-squared (R^2) is 0.105, consider low but significant and the amount of explained variance suggests that other important variables, must be incorporated into future studies as a way to increase the R^2 value.

Materialism variable is not statistically significant, implying that materialistic attitude is not the main reason why young adults in the sample are involved in debt. Confirming previous studies (Walker et al. 1992; Lea et al. 1995; Kim et al. 2003; Elliot, 2005; Norvilitis et al. 2006; Donnelly et al. 2012), money management skills variable is negative and significant (p -value <0.05), indicating that young adults who have good management skills usually have lower debt compared to those who are lacking in money management skills. Finally, the income variable is positive and strongly significant, implying that those who have higher income tend to have higher debt. The positive relationship supports the studies by Livingstone and Lunt (1992), Berthoud and Kempson (1992), Kim and Devaney (2001) and Garðarsdóttir and Dittmar (2012).

Independent variables	Dependent variable: Amount of debt						
	B	SE	β	T	Significance	Tolerance	VIF
Materialism	0.055	0.035	0.064	1.602	0.110	0.900	1.111
Money management skills	-0.075	0.034	-0.087	-2.214	0.027**	0.921	1.085
Income	0.271	0.035	0.312	7.788	0.000***	0.895	1.117
F = 24.371 ($p = 0.000$); $R^2 = 0.105$, ** and *** represent significance at 5% and 1% level, respectively							

Table 3: Multiple regression results

5. Conclusion, limitation, and suggestion for further research

This study has addressed three research questions in exploring factors influencing the debt level of Malaysian young adults, an extended study which examines variants of debt consumed by youths in northern region of Malaysia. The results suggest that income level is a significant predictor of debt level among Malaysian young adults. This indicates that high income earners have more debt capacity that allows them to borrow more. The result may have an indirect implication to financial institutions to target the high-income groups to sell their loan products.

The study also finds strong support that associate negatively money management skills with debt. In particular, Malaysian young adults who have poor money management skills may have higher debt than those who are financially literate. The result implies that to minimize debt accumulation, money management skills must be inculcated among youth by educating them on the basic financial management knowledge at an early age. Malaysian government through Central Bank of Malaysia indeed has taken initiative to collaborate with the Ministry of Education to integrate basic financial education elements into the school curriculums beginning 2014, which will be expanded to all primary and secondary school levels by 2021.

In the aspect of materialism, this study does not find any significant relationship between materialism and debt level, indicating that young adults represented in this sample do not possess materialistic attitude that cause them to involve in debt. This finding, however, should be interpreted with caution, as the data was collected from respondents in northern states of Malaysia, where the socio-economic background and living lifestyle might different than respondents from urban areas such as Kuala Lumpur, Penang, and Johor Bahru. The data was also gathered during a time when Malaysian government had a tremendous cut in its budget, particularly in some economic sectors which could affect spending behaviour or attitudes toward debt for some respondents, which may limit the generalizability of the findings.

The findings of this study should be interpreted with some limitations. Firstly, due to time and resources constraints, the sampling frame was limited to a geographical area covering only two states in northern part of Malaysia, which are Kedah and Perlis. Thus, the sample size of this study may not fully represent the young Malaysians as a whole. Future study should increase the sample size by covering respondents in other states in Malaysia. Secondly, this study only employed three variables to explore factors influencing young adults' debt in Malaysia. Future studies may include other variables such as financial literacy, self-control, spending tendencies, compulsive buying, and financial worry. It is worth paying attention to the issue of financial literacy in the future as only 36 percent of Malaysian adults are financially literate (Klapper et al. 2015) compared to its closest neighbour, Singapore (59 percent).

6. References

- Ahmad, R 2016, 'Credit card debt management: a profile study of young professionals', *Asia-Pacific Management Accounting Journal*, vol. 8, no. 1.
- Alias, NZ, Rashid, MAA, & Chye, JF K 2010, 'Consumer spending - solid as a rock?', *Economic Research*. Available from: <https://www.marc.com.my/index.php/economic-research/periodic-reports/periodic-reports-2010/615-consumer-spending-solid-as-a-rock-24-november-2010/file> [29 January 2017].
- Bank Negara Malaysia 2015, *Financial stability and payment systems report 2015*. Available from: http://www.bnm.gov.my/index.php?ch=en_publication&pg=en_fspr&ac=11&en [21 May 2016].
- Babbie, E 2014, *The basics of social research*, 6th edn, Cengage Learning, Wadsworth, USA.
- Berthoud, R & Kempson, E 1992, *Credit and debt: the PSI report*. London: Policy Studies Institute.
- Bush, AJ & Hair, JF 1985, 'An assessment of mall intercept on a data collection method', *Journal of Marketing Research*, vol. 22, pp. 158-167.

- Canner, GB & Cyrnak, AW 1985, 'Recent development in credit card holding and use patterns among U.S. families', *Journal of Retail Banking*, vol. 7, pp. 63-74.
- Carvalho, M & Hamdan, N 2015, 'Becoming bankrupt before 35', *The Star*, 22 June. Available from: www.thestar.com.my [22 June 2015].
- Chatterjee, S, Hadi, AS & Price, B 2000, *Regression analysis by example*, John Wiley and Sons, New York.
- Churchill, GAJ 1979, 'A paradigm for developing better measures of marketing constructs', *Journal of Marketing Research*, vol. 16, no. 1, pp. 64-73.
- Davies, E & Lea, SE 1995, 'Student attitudes to student debt', *Journal of Economic Psychology*, vol. 16, no. 4, pp. 663-679.
- Department of Statistics Malaysia 2015, *Report of household income and basic amenities survey 2014*. Malaysian Government. Available from: <https://www.dosm.gov.my> [28 April 2017].
- Donnelly, G, Iyer, R & Howell, RT 2012, 'The big five personality traits, material values, and financial well-being of self-described money managers. *Journal of Economic Psychology*, vol. 33, no. 6, pp. 1129-1142.
- Elliot, A. 2005, *Not waving but drowning: over indebtedness by misjudgment*. Available from: http://www.infohub.moneyadvicetrust.org/content_files/files/not_waving_but_drowning_summary.pdf [2 July 2016].
- Fournier, S & Richins, M 1991, 'Some theoretical and popular notions concerning materialism', *Journal of Social Behavior and Personality*, vol. 6, pp. 403-414.
- Gardarsdottir, RB & Dittmar, H 2012, 'The relationship of materialism to debt and financial well-being: the case of Iceland's perceived prosperity', *Journal of Economic Psychology*, vol. 33, pp. 471-481.
- Grable, JE, Park, JY & Joo, SH 2009, 'Explaining financial management behavior for Koreans living in the United States', *Journal of Consumer Affairs*, vol. 43 no.1, pp. 80-107.
- Hilgert, MA, Hogarth, JM & Beverly, S 2003, 'Household financial management: the connection between knowledge and behavior', *Federal Reserve Bulletin*, vol. 89, no. 7, pp. 309-322.
- Hofstede, G 2001. *Culture's consequences: comparing values, behaviors, institutions, and organizations across nations*, 2nd edn, Sage Publications, Netherlands.
- Kim, H & DeVaney, SA 2001, 'The determinants of outstanding balances among credit card revolvers', *Financial Counselling and Planning*, vol. 12, no. 1, pp. 67-77.
- Kim, J, Garman, ET & Sorhaindo, B 2003, 'Relationships among credit counselling clients' financial well-being, financial behaviours, financial stressor events and health', *Financial Counselling and Planning*, vol. 14, no. 2, pp. 75-87.
- Klapper, LF, Lusardi, A & van Oudheusden, P 2015, *Financial literacy around the world: insights from the Standard & Poor's ratings services global financial literacy survey*. Available from: <http://gflec.org/initiatives/sp-global-finlit-survey/> [2 July 2016].
- Lea, SEG, Webley, P & Levine, RM 1993, 'The economic psychology of consumer debt', *Journal of Economic Psychology*, vol. 14, pp. 85-119.
- Lea, SEG, Webley, P, & Walker, CM 1995, 'Psychological factors in consumer debt: money-management, economic socialization, and credit use', *Journal of Economic Psychology*, vol. 16, pp. 681-701.
- Livingstone, S & Lunt, PK 1992, 'Predicting personal debt and debt repayment: psychological, social and economics determinants', *Journal of Economic Psychological*, vol. 13, pp. 111-134.
- Loke, V, Choi, L & Libby, M 2015, 'Increasing youth financial capability: an evaluation of my path savings initiative', *Journal of Consumer Affairs*, vol. 49, no. 1, pp.97-126.
- Malaysia Insolvency Department 2012, *Bankruptcy statistics*. Malaysian Government. Available from: <http://www.insolvensi.gov.my/about-us/resources/statistics/bankruptcy/217-bankruptcy-statistic> [24 January 2017].

- Ming-Yen Teoh, W, Chong, S, & Yong SM 2013, 'Exploring the factors influencing credit card spending behavior among Malaysians', *International Journal of Bank Marketing*, vol. 31, no. 6, pp. 481-500.
- Nga, JKH, Yong, LHL & Sellapan, R 2011, 'The influence of image consciousness, materialism and compulsive spending on credit card usage intentions among youth', *Young Consumers*, pp. 243-253.
- Norvilitis, JM, Merwin, MM, Osberg, TM, Roehling, PV, Young, P & Kamas, MM 2006, 'Personality factors, money attitudes, financial knowledge, and credit-card debt in college students', *Journal of Applied Social Psychology*, vol. 36, no. 6, pp. 1395-1413.
- Nunnally, J & Bernstein, I 1994, *Psychometric theory*, McGraw-Hill, New York.
- Petry, NM 2002, 'A comparison of young, middle-aged, and older adult treatment-seeking pathological gamblers', *The Gerontologist*, vol. 42, no. 1, pp. 92-99.
- Pinto, MB, Parente, DH, & Palmer, TS 2000, 'Materialism and credit card use by college students', *Psychological Reports*, vol. 86, no. 2, pp. 643-652.
- Ponchio, MC & Aranha, F 2008, 'Materialism as a predictor variable of low income consumer behavior when entering into installment plan agreements', *Journal of Consumer Behaviour*, vol. 7, no. 1, pp. 21-34.
- Richins, ML & Dawson, S 1992, 'Consumer values orientation for materialism and its measurement: scale development and validation', *Journal of Consumer Research*, vol. 19, pp. 303-316.
- Richins, M 2004, 'The material values scale: measurement properties and development of a short form', *Journal of Consumer Research*, vol. 31, pp. 209-219.
- Robb, CA & Woodyard, AS 2011, 'Financial knowledge and best practice behavior', *Journal of Financial Counselling & Planning*, vol. 22, no. 1, pp. 60-70.
- Sekaran, U 2003, *Research methods for business*, John Wiley & Sons, New York.
- Watson, JJ 1998, 'Materialism and debt: a study of current attitudes and behaviors', *Advances in Consumer Research*, vol. 25, pp. 203-207.
- Walker, CM, Lea SEG & Webley, P 1992, 'An interview study of the origins of problem debt', *paper presented to the International Association for Research in Economic Psychology*, Frankfurt, August.
- Watson, JJ 2003, 'The relationship of materialism to spending tendencies, saving, and debt', *Journal of Economic Psychology*, vol. 24, no. 6, pp. 723-739.
- Zhang, T & DeVaney, SA 1999, 'Determinants of consumer's debt repayment patterns', *Consumer Interests Annual*, vol. 45, pp. 67-70.