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A Study on Propensity to Indebtedness among Young Working Malays in Malaysia

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Abstract
Purpose: The purpose of this study is to investigate the factors that affect propensity to indebtedness among young working Malays in Malaysia. Individual indebtedness has been a phenomenon in Malaysia especially since the 2008 global financial crisis. Measured by household debt to gross domestic product (GDP), Malaysia experienced high levels of household debt of more than 80% since 2010. Consumption behaviour patterns have revolutionized in recent years where online shopping has been a norm. Online shopping has been made easy by reliable payment gateway including the use of credit card and buy-now-pay-later (BNPL) facilities. Furthermore, there is a constant offer and strong promotion of mega sales on online shopping sites.
Design/methodology/approach: In this study, four variables are tested as predictors to propensity to indebtedness. They are money management skills, status consumption, susceptibility to interpersonal influence, and attitudes towards debt. The sample for this study consisted of 324 valid respondents who participated in a survey. The data was collected via online platform and physical. The data was analyzed using the partial least square structural equation modelling (PLS-SEM).
Findings: The findings revealed that there is a substantive significant negative relationship between money management skills and attitudes towards debt. Status consumption and susceptibility to interpersonal influence substantively significantly affect attitudes towards debt positively. And attitudes towards debt significantly affects the propensity to indebtedness positively. For mediation, it has been found that attitudes towards debt mediated the relationship between all the three variables (money management skills, status consumption, and susceptibility to interpersonal influence) and propensity to indebtedness.
Research limitations/implications: Further research may include socio demographic factors such as parental guide, other consumer behaviour factors such compulsive buying, and other financial factors such as access to credit as predictors to propensity to indebtedness. The research can also be extended to pre-retirement individuals as these people are also quite fragile

in facing debt problem as they have short period of time to recover their indebtedness problem before they retire.
Practical implications: The results could be used by regulators to control the high level of indebtedness among Malaysians, especially the young people. The government, through relevant agencies, may educate people about the importance of personal financial management and the risks of being over-indebted.
Originality/value: The variables used in this study represent financial factors and consumer behaviour factors.

Keywords: Individual Indebtedness, Attitudes Towards Debt, Money Management Skills, Status Consumption, Susceptibility to Interpersonal Influence

Introduction

High household debt level has become an interesting topic of discussion especially after the 2008 global financial crisis. Measured by household debt as a percentage of the gross domestic product (GDP), Malaysia has recorded a very high household debt to GDP ratio of 84.2% as at December 2023, as reported Bank Negara Malaysia's Financial Stability Review Second Half 2023. In Ringgit term, the household debt level was reported to be RM1.534 trillion for the same period (Bank Negara Malaysia, 2024). A trend overview of the ratio for a period from 2008 until 2023 shows that Malaysia has experienced high household debt to GDP ratio. CEIC Data revealed that Malaysia's household debt to GDP ratio increased tremendously from 60.42% in 2008 to 72.40% in 2009, and continued rising until 2015 with a ratio of 86.94%, then dropped slightly in the following three years, then hiked and reached a record high in 2020 with a ratio of 93.32%, eased off in 2021 and 2022, but rose again in 2023 (CEIC, 2019; CEIC, 2024). The highest household debt to GDP ratio of 93.32% was recorded in 2020 partly due to slowdown in economic activities and decline in employment, induced by the COVID 19-related movement control order (MCO). The composition of household debt includes residential properties financing, non-residential properties financing, motor vehicles financing, credit cards, personal financing, securities financing, and others. The most recent data as of second half of 2023 showed that top three major categories of household debt are residential properties financing, motor vehicles financing and personal financing. Residential properties financing represented 60.5% of total household debt, motor vehicles financing made up 13.2%, and personal financing contributed 12.6%, aggregating a total of 86.3% of total household debt. Other categories are non-residential properties financing (5.3%), securities financing (4.3%), credit cards (3.0%), and other financing (1.2%) (Bank Negara Malaysia, 2024). The statistics of high and increasing household debt in Malaysia in 2023 is accompanied by an increase in the number of enrolments in the debt management program (DMP) of the Credit Counseling and Debt Management Agency (AKPK). The enrolment in DMP increased to 52,057 cases in 2023 as compared to 34,670 cases in the preceding year (Bank Negara Malaysia, 2024). Out of those who register in the DMP in 2022, some 15,600 (44.96 percent) borrowers are aged between 30 and 39 years old and 3,700 (10.66 percent) are in the 20-29 years old age group (Bank Negara Malaysia, 2023).

The phenomenon of high household debt and increase enrolments in the debt management program in Malaysia as mentioned in the previous paragraph instigate the authors' interest to research further into the issue of indebtedness among Malaysians. The interest to investigate the issue of individual indebtedness is also fueled by another shocking statistics pertaining the individual bankruptcy cases in recent years. The Malaysian Department of Insolvency (MdI), in its statistics revealed that there are 33,388 cases of individual bankruptcy for a period from 2019 until February 2023, and 6,361 cases or 19.05 percent of them are represented by young adults aged below 25 years old and between 25 and 34 years old. Bankruptcy cases broken down by sources of bankruptcy show that the top 5 causes of bankruptcy are personal financing (49.31 percent), business financing (16.95 percent), vehicle hire-purchase (11.20 percent), home financing (8.23 percent) and credit card debt (6.44 percent) (Malaysia Department of Insolvency, 2023). From the bankruptcy statistics, it was intrigued to know that quite a remarkable percentage of bankrupts are young individuals and about 75.18% of causes of bankruptcy are from the categories of non-productive household debt (Malaysia Department of Insolvency, 2023).

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Household debts occur mainly for consumption purposes (D'Alessio & Iezzi, 2013; Gathergood, 2012; Ghaziaskar, 2017; Lusardi & Tufano, 2015) and asset accumulation purposes (Ghaziaskar, 2017). For consumption purposes, people take on debt to make ends meet (Zainal Abidin et al., 2013) and also for lifestyle attainment (Davies & Lea, 1995; Zainol et al., 2016). With regards to consumption-induced debt, events around us may have huge influence on people to buy goods whether they need them or not, whether they originally plan to buy them or not, and whether they have the money to buy them or not. For instance, in Malaysia mega sales are held frequently and are promoted aggressively. Consumers are used to holding up for these significant promotions in order to get good deals. According to the Malaysia Market Insight Report 2022, Malaysians are shifting their purchasing habits away from traditional brick-and-mortar stores and toward online shopping. Malaysians are deemed to be bargain hunters, as evidenced by massive traffic spikes in online marketplaces on specific dates of major sales such as on 11.11 sales, and 60 to 70 percent of the traffic is converted into actual purchase (Commissionfactory, 2022). These increases are fueled further by a variety of payment options, including credit cards, online bank transfers, e-wallets, and buy-now-pay-later (BNPL) schemes, which allow for quick and easy checkouts.

This study aims to investigate the factors that affects the propensity to indebtedness among young working Malays in Malaysia. Money management skills, status consumption, susceptibility to interpersonal influence, and attitudes towards debt are chosen as the predictors to propensity to indebtedness in this study. The reason for choosing the young adults is because of the characteristics of young adults in the context of human life cycle, that relates to the inclination to take debts in their life. According to Houle (2014), young adults are people in a particular age group who are at the beginning of the debt accrual career, who are at a stage of life having relatively low income and few assets, and who are at a time of making significant life decisions and investments such as completing education, getting married and buying a house. Scheresberg (2013) in his study of young adults aged 25 to 34 years old characterized young adults as having plenty borrowing opportunities and access to a wide range of financial products. Being at the stage of transition to adulthood - starting a career with relatively low income, together with the quests for middle-class lifestyle that demand consumption in consumer goods, along with the dream to accumulate assets for the future, and together with the pressure to make major life decisions - young adults tend to take debt to acquire most of the needs and lifestyle. Moreover, it is believed that most individuals start managing their personal financial matters when they start earning income as young adults, without any formal preparation to guide them (Shim et al., 2009).

Literature Review

Propensity to Indebtedness

Propensity to indebtedness can be described as an individual's inclination or tendency towards acquiring debt. This propensity encompasses both qualitative and quantitative implications, impacting financial wellness when debt is used productively but leading to negative outcomes like distress, depression, and even suicidal tendencies when mismanaged. Behavioural factors have been found to be influencing the propensity to debt (Azma et al., 2019; Oliveira, 2020). Azma et al. (2019) performed a study on indebtedness in Malaysia based on behavioural factors and found that materialism and emotion are significant factors for propensity towards indebtedness. Oliveira (2020) concluded that behaviour factors and socio-demographic factors influenced the degree of indebtedness, where behaviour factor has the strongest effect.

It appears that having debt at young age is part of a typical life cycle situation. This is supported by findings from various studies pertaining young adults' indebtedness that young adults are increasingly burdened by debt (Brown et al., 2013; Houle, 2014; Scheresberg, 2013). Furthermore, propensity to debt has been identified to cause over-indebtedness (Gutiérrez-Nieto et al., 2017). Understanding and addressing this propensity through improved financial education and awareness of the risks associated with over-indebtedness are crucial to prevent adverse consequences on individuals, lenders, and society at large.

Money Management Skills and Attitudes towards Debt

Money management skills play a crucial role in individuals' financial well-being, as highlighted in various research papers. Studies have shown a positive relationship between financial literacy, debt management, and attitudes towards money with financial well-being (Kidwell et al., 2003). In a paper by Białowolski et al. (2020), the role of financial knowledge and skills in shaping consumer debt attitudes was studied with multinomial regression models and the results showed that debt skills were a particularly strong predictor of consumer debt attitude. Abdullah et al. (2019) performed a study that correlates debt management with money management skills in young adults and found that debt management positively influences self-control, overconfidence, and money skills. These findings collectively underscore the significance of money management skills in shaping attitudes towards debt and overall financial well-being.

Status Consumption and Attitudes towards Debt

Status consumption, the act of purchasing goods to display social status, has been extensively studied in various contexts. Research by (Velandia-Morales et al., 2022) highlighted the impact of perceived economic inequality on status consumption, materialism, and attitudes toward indebtedness. Yeniaras (2016b) described the new affluent middle class incur debts in portraying materialistic lifestyle to gain status in society. Page (1992) in Adzis et al. (2017) provides evidence of consumer debts doubling in the United States as a result of a focus on status consumption. Watson (1998) in Adzis et al. (2017) concluded 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. Pinto et al. (2000) investigated 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) examined 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 suggested 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.

Understanding these relationships can provide insights into how attitudes towards debt and propensity to indebtedness may be influenced by an individual's engagement in status consumption behaviours.

Susceptibility to Interpersonal Influence and Propensity to Indebtedness

Susceptibility to interpersonal influence plays a crucial role in shaping attitudes towards debt and propensity to indebtedness. Susceptibility to interpersonal influence is a behavioural factor that is expected to have influence on individual's indebtedness. People who are high in self-monitoring, a person who is sensitive to the self-images they project in social situations, is more likely to be influenced by interpersonal influence than the low self-monitoring people (Bearden et al., 1989). Individuals tend to like behaviours similar to their own and are bothered by behaviours that are opposite, particularly in the warmth dimension, which can affect psychological functioning and personality traits (Du, 2021). In a study involving susceptibility to interpersonal influence among young Muslim adults,it was found that people are more susceptible to interpersonal influence when norms and values within the group are similar (Abdul Shukor & Omar, 2019).

Theoretical Framework and Hypothesis Development

The research model is illustrated graphically in Figure 1. From the figure, this research attempted to study the relationship between four predictors with propensity to indebtedness. First, we looked at direct relationship between money management skills, status consumption and susceptibility to interpersonal influence on attitudes towards debt. Then, direct relationship between attitudes towards debt and propensity to indebtedness was investigated. After the direct relationships have been tested, we investigate indirect relationships to know whether attitudes towards debt mediates the relationship between money management skills and propensity to indebtedness, status consumption and propensity to indebtedness, and susceptibility to interpersonal influence and propensity to indebtedness.

In this model, seven hypotheses have been developed based on the research questions and the research objectives.
H1: Money management skills negatively affect attitudes towards debt.
H2: Status consumption positively affects attitudes towards debt.
H3: Susceptibility to interpersonal influence positively affects attitudes towards debt.
H4: Attitudes towards debt positively affects propensity to indebtedness.
H5: Attitudes towards debt mediates the relationship between money management skills and propensity to indebtedness.
H6: Attitudes towards debt mediates the relationship between status consumption and propensity to indebtedness.
H7: Attitudes towards debt mediates the relationship between susceptibility to interpersonal influence and propensity to indebtedness.

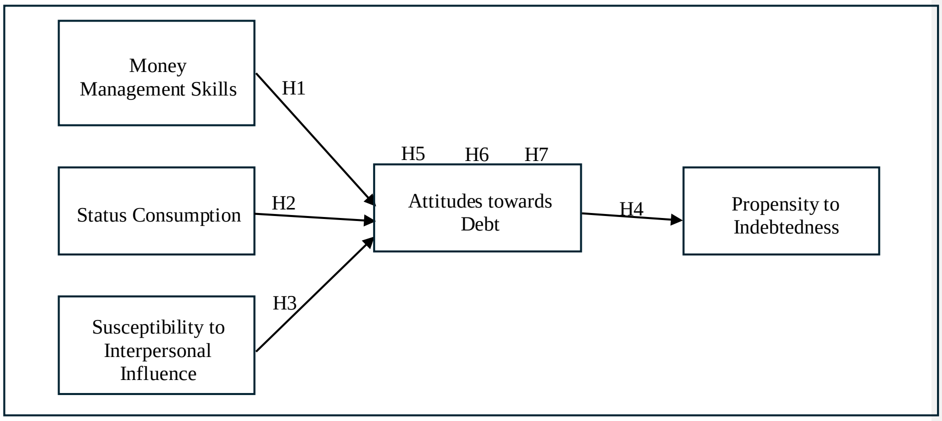

Figure 1: Theoretical Framework

Method

In this section, we discuss about the sampling, measurement items, and data analysis method. This study employed non-probability convenience sampling based on the characteristics of the population. The respondents must meet all the following three criteria to participate in this study - they must be Malay, aged within the range of 18-34 years old, and must be working persons. Data were collected through a survey where questionnaires were distributed to target respondents in the month of March 2024. The distribution of questionnaires was done online and by physical means administered by the authors and enumerators located in the southern, central and northern regions. Online questionnaires were distributed using WhatsApp and email as the platforms while the physical questionnaires were distributed by meeting with the respondents face-to-face. A total of 336 questionnaires were returned - 288 responses were received from the online survey and 48 responses were received from the paper-based physical survey.

The questionnaires consist of 7 sections including the demography, the constructs, and the marker variable. The questionnaire items for each construct were adapted from well-established instruments to measure the constructs under study. The items to measure propensity to indebtedness were adapted from Flores & Vieira (2014) who used 9 items from Moura (2005). Money management skills were assessed using 9 items from French & McKillop (2016). Status consumption has 5 items and susceptibility to interpersonal influence has 12 items that were adapted from Eastman et al. (1999) and Bearden et al. (1989), respectively. Finally, attitudes towards debt were assessed using 6 items adapted from Davies & Lea (1995). In this study, a marker variable was collected together in the questionnaires. The marker variable is a variable that is theoretically unrelated to the study and to be used to test for Common Method Bias. For this purpose, a variable called social desirability scale was used and the items were adapted from Fischer & Fick (1993). The social desirability scale has 6 items. All items are measured using a 5-point Likert scale ranging from 1 to 5, where 1 represents strongly disagree and 5 signifies strongly agree.

The data were analyzed in two stages namely the data preparation stage and data analysis stage. In data preparation stage, Statistical Package for Social Science (SPSS) version 27 and Microsoft Excel were used. In SPSS, missing values were determined using the expectation-maximization (E.M.) algorithm. Multivariate outliers were determined by Mahalanobis Distance regression. Microsoft Excel was used to find the straight-lining cases. Straight-lining occurs when any particular respondent selects the same answer for all the questions. To detect straight-lining cases, we use a built-in function "=stdev(number1,[number2],…)" in Microsoft Excel. Standard deviation value of 0 signifies a straight-lining case. Missing values, outliers, and straight-lining were then treated. After the treatment for missing values, outliers and straight-lining, descriptives statistics was carried out to understand the demographic background of the respondents, and multivariate normality assessment was performed to determine the normality of the data. For data analysis, SmartPLS 4 software was utilized to perform test for common method bias, and to perform partial least square analysis to assess the measurement and the structural models. The measurement models looked at convergent validity, discriminant validity, and collinearity. Specific measures for measurement models are loadings of each item, composite reliability (CR), average variance extracted (AVE), and heterotrait-monotrait ratio (HTMT). The structural model assessed the beta coefficients, standard deviations, t-values, p-values, confidence interval bias corrected, effect size, and R-square. Finally, an assessment of predictive relevance was conducted using PLS predict to assess the model's predictive power.

Findings

Data Preparation

In the first stage, the collected data were screened for missing values, straight-lining, and outliers. First, we observe the answers to 3 preliminary questions to screen that the respondents must be Malay, aged between 18 and 34 years old, and are working. From 336 respondents, 6 respondents did not meet the required criteria of being Malays, aged between 18 and 34 years old, and working. From the expectation-maximization (E.M.) algorithm, we found no missing value. Test for straight-lining found 1 straight-lining case and Mahalanobis Distance test detected 5 outlier cases in the dataset. All the non-compliant to the screening criteria (6 cases), straight-lining (1 case) and outlier cases (5 cases) were removed from the sample, leaving 324 valid respondents.

Descriptives Statistics of the Demography

A frequency descriptives statistics was carried out to understand the respondents' demographic background, as presented in Table 1. From the 324 valid respondents 54.9% are male and the remaining are female. Age group 30-34 years old represented 58.6% of the respondents, followed by age group 24-29 years old (38.3%), and age group 18-23 years old (3.1%). Most of the respondents are married (62.9%; 204 respondents) where 80.9% (165 respondents) of married respondents are from families that both husband and wife are working, and 19.2% (39 respondents) have non-working spouse. 35.8% of the respondents are single, 0.9% are divorcees, and 0.3% are widows. In terms of education background, 44.4% of the respondents hold bachelor degree, 32.7% hold diploma, 17.6% are SPM holders, and 5.2% are masters degree holders. The respondents employment information covers employment sectors and designation of the respondents. From the total respondents, 49.4% are working in the private sector, 39.2% in the government sector, 9.3% are self-employed, and 2.2% are in other categories. In terms of designation, 30.9% are executives, 18.5% are non-executives, 3.7% are managers, 3.1% are senior managers, and 43.8% are in other categories. Income of the respondents shows that 32.4% of the respondents have monthly income between RM2,501 and RM3,170, 26.9 % have monthly income less than RM2500, 23.8% are in the RM3,171 – RM3,970 income group, 9.6% are in the RM3,971 – RM4,850 income group, 4.3% are in the RM4,851 – RM5,880 income group, 2.2% are in the RM5,881 – RM7,100, 0.6% are in the

RM10,971 – RM15,040, and 0.3% are in the RM7,101 – RM8,700. Finally, in terms of the state of residency, 39.2% are from the southern region, 34.3% are from the central region, 20.7% are from the northern region, 4.9% are from the eastern region, and 0.9% are from Sabah and Sarawak.

Table 1: Frequency Descriptives Statistics of the Respondents' Demographic Background

Criteria	Category	Number	Percentage
Gender	Male	178	54.9%
	Female	146	45.1%
Age Group	18-23	10	3.1%
	24-29	124	38.3%
	30-34	190	58.6%
Marital Status	Single	116	35.8%
	Married, both husband and wife are working	165	50.9%
	Married, spouse is not working	39	12.0%
	Divorced	3	0.9%
	Widowed	1	0.3%
Education Background	PMR/PT3 or below	0	0%
	SPM	57	17.6%
	Diploma	106	32.7%
	Bachelor Degree	144	44.4%
	Masters Degree	17	5.2%
	PhD	0	0%
Employment Sector	Private	160	49.4%
	Government	127	39.2%
	Self-employed	30	9.3%
	Retired	0	0%
	Others	7	2.2%
Designation	Non-executive	60	18.5%
	Executive	100	30.9%
	Manager	12	3.7%
	Senior Management	10	3.1%
	Others	142	43.8%
Monthly Income	Less than RM2,500	87	26.9%
	RM2,501 - RM3,170	105	32.4%
	RM3,171 – RM3,970	77	23.8%
	RM3,971 – RM4,850	31	9.6%
	RM4,851 – RM5,880	14	4.3%
	RM5,881 – RM7,100	7	2.2%
	RM7,101 – RM8,700	1	0.3%
	RM8,701 – RM10,970	0	0%
	RM10,971 – RM15,040	2	0.6%
	RM15,041 and above	0	0%
State of Residency	Southern region (Johor, Melaka, Negeri Sembilan)	127	39.2%
	Central region (W.P. Kuala Lumpur, Selangor, W.P. Putrajaya)	111	34.3%
	Northern region (Perak, Pulau Pinang, Kedah, Perlis)	67	20.7%
	Eastern region (Pahang, Kelantan, Terengganu)	16	4.9%
	East Malaysia (Sabah, Sarawak, W.P. Labuan)	3	0.9%

Test for Normality
The data was tested for multivariate normality as suggested by Cain et al. (2017) using Mardia's multivariate skewness and kurtosis. The results showed that the data was not multivariate normal as measured by Mardia's multivariate skewness (β = 1.5579, $p< 0.01$) and Mardia's multivariate kurtosis (β = 35.5355, $p = 0.5646$).

Common Method Bias
Since data was collected using a single source, there is a need to test the issue of Common Method Bias. For this purpose, a marker variable, social desirability scale, was added to the model as an exogenous variable predicting each endogenous construct (Lin et al., 2015). The model with the marker variable was then compared to the baseline model. The regression results of the baseline model found that Hypothesis 1 (money management skills → attitudes towards debt), Hypothesis 2 (status consumption → attitudes towards debt), Hypothesis 3 (susceptibility to interpersonal influence → attitudes towards debt), and Hypothesis 4 (attitudes towards debt → propensity to indebtedness), Hypothesis 5 (money management skills → attitudes towards debt → propensity to indebtedness), Hypothesis 6 (status consumption → attitudes towards debt → propensity to indebtedness), and Hypothesis 7 (susceptibility to interpersonal influence → attitudes towards debt → propensity to indebtedness) were all significant and supported. The beta coefficients, t-statistics and p-values of each hypothesis are shown in Table 2 below. The baseline model's R-square were 0.268 for attitudes towards debt and 0.568 for propensity to indebtedness.

Table 2: Hypothesis Testing Baseline Model

Hypothesis	Relationship	Std Beta	Std Error	t-values	p-values
H1	Money Management Skills → Attitudes towards Debt	-0.170	0.045	3.750	p< .001
H2	Status Consumption → Attitudes towards Debt	0.235	0.063	3.752	p< .001
H3	Susceptibility to Interpersonal Influence → Attitudes towards Debt	0.272	0.066	4.122	p< .001
H4	Attitudes towards Debt → Propensity to Indebtedness	0.754	0.027	28.363	p< .001
H5	Money Management Skills → Attitudes towards Debt → Propensity to Indebtedness	-0.106	0.036	2.912	0.002
H6	Status Consumption → Attitudes towards Debt → Propensity to Indebtedness	0.17	0.048	3.540	p< .001
H7	Susceptibility to Interpersonal Influence → Attitudes towards Debt → Propensity to Indebtedness	0.185	0.052	3.566	p< .001

Note: We use 95% confidence interval with a bootstrapping of 10,000

Method factor model, a model that includes a marker variable, has regression results that all the hypotheses (H1, H2, H3, H4, H5, H6, and H7) were significant and the values of R-square were 0.288 for attitudes towards debt and 0.569 for propensity to indebtedness. The results are shown in Table 3 below. Since significant paths in the baseline model (H1, H2, H3, H4, H5, H6, and H7) remained significant in the method factor model, and the values of R-square do not change more than 0.10 from the R-square of the baseline model, it is concluded that the data did not have the Common Method Bias problem.

Table 3: Hypothesis Testing Method Factor Model

Hypothesis	Relationship	Std Beta	Std Error	t-values	p-values
H1	Money Management Skills → Attitudes towards Debt	-0.139	0.047	2.970	0.001
H2	Status Consumption → Attitudes towards Debt	0.223	0.063	3.550	p< .001
H3	Susceptibility to Interpersonal Influence → Attitudes towards Debt	0.243	0.067	3.642	p< .001
H4	Attitudes towards Debt → Propensity to Indebtedness	0.761	0.029	26.068	p< .001
	Social Desirability Scale → Attitudes towards Debt	0.153	0.052	2.942	0.002
	Social Desirability Scale → Propensity to Indebtedness	-0.025	0.042	0.606	0.272
H5	Money Management Skills → Attitudes towards Debt → Propensity to Indebtedness	-0.106	0.036	2.912	0.002
H6	Status Consumption → Attitudes towards Debt → Propensity to Indebtedness	0.170	0.048	3.540	p< .001
H7	Susceptibility to Interpersonal Influence → Attitudes towards Debt → Propensity to Indebtedness	0.185	0.052	3.566	p< .001
	Social Desirability Scale → Attitudes towards Debt → Propensity to Indebtedness	0.117	0.040	2.886	0.002

Note: We use 95% confidence interval with a bootstrapping of 10,000

Measurement Model

For data analysis stage, partial least squares (PLS) modeling using the SmartPLS 4 software (Ringle, C. M., Wende, S., and Becker, J.-M. 2024. "SmartPLS 4." Bönningstedt: SmartPLS, https://www.smartpls.com., 2024) was used as the statistical tool to examine the measurement model and the structural model. First, we tested the measurement model to ensure the validity and reliability of the instruments following the guidelines of Hair et al. (2022) and Ramayah et al. (2018). For the measurement model, we assessed the construct validity, discriminant validity, and collinearity. Construct validity looked at the loadings, average variance extracted (AVE) and the composite reliability (CR). The values of loadings should be ≥0.5,0.6,0.7 or 0.708, the AVE should be ≥ 0.5 and the CR should be ≥ 0.7. The loadings of ≥0.6 were chosen in this study. As shown in Table 4, the AVEs are all higher than 0.5 and the CRs are all higher than 0.7. Then, we assessed the discriminant validity using the HTMT criterion suggested by Henseler et al. (2015) and updated by Franke & Sarstedt (2019). The stricter criterion, HTMT values should be ≤ 0.85 and the more lenient criterion, it should be ≤ 0.90. As shown in Table 5, the values of HTMT were all lower than 0.90 as such we can conclude that the respondents understood that the 5 constructs are distinct.

Table 4: Construct Validity

Constructs	Items	Loadings	AVE	CR
Propensity to Indebtedness	B3	0.671	0.659	0.884
	B4	0.889		
	B5	0.870		
	B6	0.799		
Money Management Skills	C1	0.659	0.685	0.928
	C3	0.799		
	C6	0.863		
	C7	0.867		
	C8	0.882		
	C9	0.875		
Status Consumption	D1	0.764	0.720	0.911
	D2	0.912		
	D3	0.906		
	D4_recode	0.801		
Susceptibility to Interpersonal Influence	E2	0.786	0.582	0.938
	E3	0.828		
	E4	0.843		
	E5	0.800		
	E6	0.797		
	E7	0.822		
	E8	0.802		
	E9	0.724		
	E10	0.658		
	E11	0.664		
	E12	0.629		
Attitudes towards Debt	F1	0.695	0.666	0.908
	F2	0.739		
	F3	0.909		
	F4	0.855		
	F5	0.863		

Table 5: Discriminant Validity (HTMT)

Constructs	1	2	3	4	5
1. Attitudes towards Debt					
2. Money Management Skills	0.259				
3. Propensity to Indebtedness	0.884	0.235			
4. Status Consumption	0.498	0.230	0.302		
5. Susceptibility to Interpersonal Influence	0.484	0.122	0.314	0.710	

Taken together both construct and discriminant validity tests above, the measurement items are both valid and reliable.

Structural Model

Since the data was not multivariate normal, thus following the suggestions of Becker et al. (2023) we reported the path coefficients, the standard errors, t-values and p-values for the structural model using a 10,000-sample re-sample bootstrapping procedure (Ramayah et al., 2018). Also based on the criticism of Hahn & Ang (2017) that p-values are not good criterion for testing the significance of hypothesis and suggested to use a combination of criterions such as p-values, confidence intervals and effect sizes. However, the study should assess collinearity issue by looking at the variance inflation factor (VIF) values of the structural model prior to assessing the other key criteria. Studies have stated that predictor constructs could have a high probability of collinearity issues if they have a VIF value of above 5 (Hair et al., 2017). Table 6 summarizes the VIF values of each construct in the model. From the table, the VIF values of all the constructs are below 5, indicating no existence of collinearity among the predictor constructs in the model.

Table 6: Collinearity Assessment – Variance Inflation Factor (VIF)

Constructs	1	2	3	4	5
1. Attitudes towards Debt			1.000		
2. Money Management Skills	1.051				
3. Propensity to Indebtedness					
4. Status Consumption	1.807				
5. Susceptibility to Interpersonal Influence	1.741				

Table 7 shows the summary of the criterions used to test the hypotheses developed. First, we tested the effect of the 3 predictors (money management skills, status consumption, and susceptibility to interpersonal influence) on attitudes towards debt, the R^2 was 0.268 which shows that all the 3 predictors explained 26.8% of the variance in attitudes towards debt. Money management skills ($\beta = -0.170$, $p < 0.001$) was negatively related to attitudes towards debt and significant at 95% confidence interval. Based on the confidence interval bias corrected (PCI LL = -0.237, PCI UL = -0.088) and effect size ($f^2 = 0.038$), it shows the strength of the relationship between money management skills and attitudes towards debt was small. According to Cohen (1988), f^2 is assessed as 0.02 for small effect size, 0.15 for medium effect size, and 0.35 for large effect size. Taken all these measures together, we conclude that the relationship between money management skills and attitudes towards debt was substantively significant and H1 was supported. Status consumption ($\beta = 0.235$, $p < 0.001$, PCI LL = 0.131, PCI UL = 0.338, $f^2 = 0.042$) and susceptibility to interpersonal influence ($\beta = 0.272$, $p < 0.001$, PCI LL = 0.161, PCI UL = 0.377, $f^2 = 0.058$) were all substantively significant and positively related to attitudes towards debt with small effect size, thus H2 and H3 were supported. Next, we tested the effect of attitudes towards debt on propensity to indebtedness, with an R^2 of 0.568

which indicates that attitudes towards debt explains 56.8% of the variance in propensity to indebtedness. Attitudes towards debt ($\beta = 0.754$, $p < 0.001$, PCI LL = 0.703, PCI UL = 0.792, $f^2 = 1.316$) indicated a positive relationship that was substantively significant with large effect size and gave support for H4.

To test the mediation hypotheses, we followed the suggestions of Preacher & Hayes (2004) by bootstrapping the indirect effect. If the confidence interval does not straddle a 0 then we can conclude that there is significant mediation. As shown in Table 8, money management skills → attitudes towards debt → propensity to indebtedness ($\beta = -0.128$, $p < 0.001$), status consumption → attitudes towards debt → propensity to indebtedness ($\beta = 0.177$, $p < 0.001$) and susceptibility to interpersonal influence → attitudes towards debt → propensity to indebtedness ($\beta = 0.205$, $p < 0.001$) were all significant. The confidence intervals bias corrected 95% also did not show any intervals straddling a 0 thus confirming our findings. Thus, H5, H6 and H7 were also supported, confirming that attitudes towards debt mediates the relationship between money management skills and propensity to indebtedness, between status consumption and propensity to indebtedness, and between susceptibility to interpersonal influence and propensity to indebtedness.

Table 7: Hypothesis Testing Direct Effects

Hypothesis	Relationship	Expected Result	Std Beta	Std Error	t-values	p-values	BCI LL	BCI UL	f^2
H1	Money Management Skills → Attitudes towards Debt	-	-0.170	0.045	3.750	p<0.001	-0.237	-0.088	0.038
H2	Status Consumption → Attitudes towards Debt	+	0.235	0.063	3.752	p<0.001	0.131	0.338	0.042
H3	Susceptibility to Interpersonal Influence → Attitudes towards Debt	+	0.272	0.066	4.122	p<0.001	0.161	0.377	0.058
H4	Attitudes towards Debt → Propensity to Indebtedness	+	0.754	0.027	28.363	p<0.001	0.703	0.792	1.316

Note: We use 95% confidence interval with a bootstrapping of 10,000

Table 8: Hypothesis Testing Indirect Effects

Hypothesis	Relationship	Expected Result	Std Beta	Std Error	t-values	p-values	BCI LL	BCI UL
H5	Money Management Skills → Attitudes towards Debt → Propensity to Indebtedness	-	-0.128	0.035	3.673	p<0.001	-0.180	-0.065
H6	Status Consumption → Attitudes towards Debt → Propensity to Indebtedness	+	0.177	0.048	3.725	p<0.001	0.099	0.256
H7	Susceptibility to Interpersonal Influence → Attitudes towards Debt → Propensity to Indebtedness	+	0.205	0.051	4.030	p<0.001	0.120	0.287

Note: We use 95% confidence interval with a bootstrapping of 10,000

Assessment of Predictive Relevance

In the previous section, it has been discussed about the results of hypotheses testing by looking at the significance of the coefficients (p-value), the signs of each coefficient, the confidence interval bias corrected (BCI LL and BCI UL), and the effect size (f^2). From the results, it has been found that all the hypotheses (H1, H2, H3, H4, H5, H6 and H7) are supported with substantively significant relationships. As a step forward, it would be meaningful if the model have predictive power that similar results would be expected if the model is used in different research settings. Shmueli et al. (2019) proposed a step known as PLS predict, a procedure that generates case-level predictions on an item or a construct level with a 10-fold procedure to check for predictive relevance. Shmueli et al. (2019) suggested comparing the item differences (PLS-LM) and the item value in LM. If the item differences (PLS-LM) are smaller than the item value in LM, there is strong predictive power. On the other hand, if all the item differences (PLS-LM) are higher than LM, predictive power is not confirmed. If the majority value of item differences (PLS-LM) is lower than LM, then there is moderate predictive power. Finally, minority value of item differences (PLS-LM) is lower than LM indicates the low predictive power. The results of PLS predict are shown in Table 9 that show that the majority of the item differences (PLS-LM) is lower than the item value in LM, thus we conclude that this model has a moderate predictive power.

Table 9: PLS Predict

Item	Q^2predict	PLS RMSE	LM RMSE	PLS - LM
B3	0.045	1.273	1.327	-0.054
B4	0.061	1.308	1.322	-0.014
B5	0.150	1.272	1.340	-0.068
B6	-0.005	1.378	1.366	0.012

Discussion and Conclusion

Results of the study showed that money management skills, status consumption, and susceptibility to interpersonal influence affect attitudes towards debt, and in turn attitudes towards debt affects the propensity to indebtedness. The relationships are positive for status consumption → attitudes towards debts, susceptibility to interpersonal influence → attitudes towards debt, attitudes towards debt → propensity to indebtedness, status consumption → attitudes towards debts → propensity to indebtedness, and susceptibility to interpersonal influence → attitudes towards debt → propensity to indebtedness. These findings are consistent with most of previous studies. For money management skills, as expected, it affects the attitudes towards debt in a negative manner. The indirect relationship of money management skills → attitudes towards debts → propensity to indebtedness is also found to be negative. Young individuals who have good money management skills tend to have lower propensity to indebtedness, and this relationship is mediated by the attitudes towards debt. This study focused on two consumption factors and two financial factors to determine the propensity to indebtedness. Future research may consider other consumption factors such as compulsive buying and consumerism, and other financial factors like access to credit, whether as independent variables or moderating variables. In addition, future work may include socio-demographic factors such as parental guide. In terms of the respondents, future research may study the propensity to indebtedness among individuals who are on the verge of retirement because this group of people have financial horizon that are relatively short and it is risky for them to take additional debt at that stage of their lifecycle.

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