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## FINANCIAL LITERACY OF UNDERGRADUATE STUDENTS IN SELECTED MALAYSIAN HIGHER EDUCATION INSTITUTIONS: A WAY FORWARD TO POLICY RECOMMENDATIONS

Husaina Banu Kenayathulla (PhD), Sharmila Nair,  
Mohd Nazri Abdul Rahman (PhD) & Norfariza Mohd Radzi (PhD)

### ABSTRACT

Financial literacy is an important but often ignored skill that is vital for the young. Lack of knowledge and understanding of financial literacy will directly affect the well-being of the individual. Research indicates that due to low financial literacy, individuals experience a variety of problems that are related to personal finances such as savings, investments, or old plans, credit and so on. Previous research indicates that socio-economic factors are important determinants of financial literacy. Most youths from lower income groups are less likely to be exposed in terms of financial literacy. Thus, there is an urgent need to provide exposure and basic knowledge of financial literacy to the youth to avoid persistence of this problem. This study identifies the level of financial literacy among undergraduate students in selected public and private higher institutions and whether there are differences in financial literacy by socio-economic status and also by gender. The questionnaires were distributed to 44 respondents using online survey. Samples included students who are recipients of Alms and also from higher income group. Data were analysed using both descriptive and inferential statistics such as T-test. The findings reveal that these undergraduates' students have high level of financial knowledge and behaviour. However, their financial attitude is still at moderate level. Results also indicate that students do not differ in financial literacy by gender or socio-economic status. This study provides insights to policy makers and relevant agencies on the appropriate interventions that need to be made to ensure financial well-being of our future generations.

**Keywords:** Financial Literacy, Youth, Malaysia

*Corresponding Author:*

*Faculty of Education,  
University of Malaya  
E-mail: husaina@um.edu.my*



# MALAYSIAN ONLINE JOURNAL OF EDUCATIONAL MANAGEMENT (MOJEM)

## INTRODUCTION

In this growing pace of education globalization, many countries are vastly evolving by improving their financial status. In the global economy, economic growth is one of the most important notions. There are many sectors that contribute to the economic growth, education has been identified as one of the crucial sectors. World Economic Forum (2016) has defined education as stock of skills, abilities, and other output-improving features. Thus, economy growth is interrelated with education. Financial literacy is the type of education that enhances economic growth. In regard to that, Malaysia has also been affected in the growing process of skills and abilities of financial literacy education. According to Oseifuah, Gyekye, and Formadi (2018), the issue of financial literacy and financial well-being among college students has become the focal attention in research. In fact, financial literacy has an important effect on financial behaviour among the youth, particularly college students.

According to United Nation (2013), 2.5 billion which constitute more than fifty percent of world's working adults are not involved in financial services. This is most severe among low-income people in emerging and developing economies, where about 80% of poor people are excluded. This resulted in young adults, regardless of their socioeconomic, demographic or locations, encountered difficulty or uncertainty during their transition from teenagers to young adult (United Nation, 2013). In general, the evidence shows that young people have low levels of financial literacy and ability to handle their own finances. Similarly, in Malaysia it is an optional part of the curriculum, though there is not yet a subject that coordinates financial literacy education to all primary and secondary students, but curriculum-wide approaches are often used in all schools. However, the knowledge of financial literacy appears to be vague in terms of application in an individual's life as a whole.

Due to the financial crisis faced globally in 2008, financial literacy education has become a worldwide concern (OECD, 2013). After the economic crisis, most governments around the world, including Malaysia, are aware that financial literacy education is not a major subject in the curriculum. It is found that financial literacy is not taught at school or it is taught in a difficult way to measure the level of student literacy knowledge as there is no evaluation to measure the literacy among students (OECD, 2014). Not only that, based on the results obtained by S&P Global Literacy Financial in 2014 reported that financial literacy rate in Malaysia is only at 36%, compared with 59% in developed countries (Klapper, Lusardi, & Van Oudheusden, 2015). Therefore, there is an urgent need to identify the level of financial literacy of the youth to avoid this problem persisting. If this problem is not constrained, it can cause serious problems such as being declared bankruptcy at a young age; pressure, depression and mental problem. The studies show that the fundamentals of financial literacy need to be addressed.

Basically, knowledge of financial management needs to be introduced at young age from primary education. Likewise, undergraduate's youth needs to be exposed to financial knowledge so they can practice simple and affordable lives distinguishing between wants and needs. Financial literacy is recognized and believed to be considerably attracting attention due to its significance in contributing to the country's development and growth. Therefore, this research aims to investigate the level of financial literacy among undergraduate students in terms of financial knowledge, behaviour and attitudes. This research also analyses whether there are differences in terms of financial literacy by socio-economic status or by gender. Thus, the level of financial literacy among the low financial background and moderate or high financial income groups are investigated.

This study provides an exciting opportunity to advance our knowledge of undergraduates' financial literacy level. This would help in creating awareness among youths and help youths to take an initiative in expanding their knowledge on financial literacy. Since it is not a subject in schools, this would alarm current undergraduates to move towards being a financially literate person. This finding should make an important contribution to the education ministry and finance department by providing the statistical information on the current level of undergraduates' financial literacy level. In a way this would allow policy makers to understand the needs of financial literacy in school level as a subject by itself and to emphasize it to be included as a compulsory subject.



## **LITERATURE REVIEW**

### ***Conceptual definition***

There is no definite universal definition about financial literacy. There are various definitions for financial literacy that are used by different researchers in their study (Hung, Parker, & Yoong, 2009). However, there are some gaps in key aspects involving financial literacy where the term financial literacy often interpreted with financial education or knowledge of finance. In fact, both constructs/concepts/ conceptual basis is different and if it is used as synonymous, it will lead to problems because of financial literacy is something that goes beyond financial education (Potrich, Grigion, Vieira, & Kirch, 2015). Huston (2010) argues that financial literacy has two dimensions: the understanding that represents knowledge of personal finance or financial education and with, the use of such knowledge in personal financial management. Lusardi and Mitchell (2011) contended that although it is good to measure how an individual possess financial literacy, but in terms of practice, it is difficult to explore ways of how one process financial information and make decisions based on existing knowledge in financial matters. This is because financial literacy comprises of several concepts such as financial awareness, knowledge, skills and financial capability which are difficult to obtain information and make decision to conduct future research.

Moore (2003) contended that financial literacy can be categorized into three dimensions, namely the financial knowledge, behaviours and experiences of finance associated with each other in which an individual's financial knowledge obtained through financial and it experience influence the attitudes and behaviour of finance. By having high financial knowledge, then one is more efficient in managing their personal finances. Robb, Babiarz, and Woodyard (2012) claims that financial literacy involves ability to understand financial information and make effective decision-making through the use of the information while the main focus is on financial education knowledge. In short, financial literacy involves financial knowledge, behaviour and attitude of finance. Norvilitis and MacLean (2010) also noted that financial literacy is broader than financial education, where the influence of financial knowledge on the behaviour of finance is mediated by financial attitudes. Atkinson and Messy (2012) also agrees that financial literacy is a combination of awareness, knowledge, skills, attitudes and behaviours needed to make strong financial results and finally achieve financial well-being. The definition covers the idea proposed by the OECD (2013) where financial literacy has three dimensions: financial knowledge, behavioural finance, and financial attitudes. Then the financial literacy is defined as a combination of behavioural finance, financial, knowledge and attitudes of finance. This concept is widely used in the literature review, and it includes the largest number of dimensions (Atkinson & Messy, 2012). Potrich et al. (2015) also used the same definition as above, namely, financial literacy is the combination of financial knowledge, behavioural finance and financial attitudes.

Dimensions of financial knowledge is a kind of specific human capital acquired throughout the lifecycle, by learning the subjects which affect the ability to manage income, expenses and savings effectively (Delavande, Susann, & Robert, 2008). Behavioural finance is the most important element in financial literacy (OECD, 2013). According to Atkinson and Messy (2012), positive results in financial literacy-driven behaviour such as budgeting and obtaining financial securities, on the other hand, certain behaviours, such as excessive use of credit facilities, can reduce the financial well-being. Therefore, financial attitudes exist through economic and non-economic beliefs held by decision-makers about specific behaviour in the decision-making (Ajzen, 1991).

The user's behaviour on the market actually reflects the teen's behaviour the user in the future (Mangleburg, Tamara, & Bristol, 1998). Parents of teenagers usually provide freedom to their children to do the purchase and determine their own decisions in line with the standard of living and the quality of a society that is now increasing. This resulted in the increase in teen purchasing power and shopping has become an activity at leisure in Malaysia (Othman & Sim, 1993). Atkinson and Messy (2012) stated that aspects of behavioural finance now is think before making purchases, paying bills and making timely budget, savings and loans to meet the needs. According to Comeau and Rhine (2000), there is a critical need for children to start the culture of saving money from small and the financial educators should also clarify the reasons and ways to save money. Moreover, the younger generation



## MALAYSIAN ONLINE JOURNAL OF EDUCATIONAL MANAGEMENT (MOJEM)

now rarely practice financial skills such as basic budgeting, applying the concept of prudent spending, developing a regular savings plan or planning for long-term needs (Pillai, Carlo, & D'souza, 2010).

Sabri et al. (2008) in a study conducted on college students in Malaysia found that most students do not know where the money was spent because they buy things that are not necessary and borrow money to their friends. There are also students who ignore the food simply to save money to buy luxury items. The findings of research indicate that experience as current user, pattern of spending, saving and financial literacy are significant predictors of financial attitude (Sabri et al., 2008). Attitudes lead an individual to act in a way that is fairly consistently towards the same objective because the attitude is difficult to be modified (Kotler & Armstrong, 2012). However, individuals in some cases motivated to change one or more of the attitudes of them because they have a need to maintain consistency between components of their attitude. Therefore, in a situation where individuals faced with inconsistencies amongst attitudes, they will take action to change it (Solomon, 2012). Similarly, the financial attitude adopted by secondary school students which may vary based on situation. The OECD (2014) contends that attitude is considered an important element in financial literacy. This is because the financial literacy dimension that is used in PISA (2012) report provides motivation, confidence and attitudes that can affect the behaviour of money management (Johnson & Staten, 2010). Basically, the non-cognitive personality traits were linked with economic and social outcome in addition to cognitive skills (Borghans, Duckworth, Heckman, & Ter Weel, 2008). More specifically, the study of psychological behaviour produces interesting results related to the relationship between personality and financial literacy (Koh, 2015) that can help policy makers to increase the efficiency of financial education.

### ***Theoretical foundation***

This study is guided by the Iceberg model for competency (Spencer & Spencer, 1993). This model is suitable to this study since it provides respondents with knowledge, skills, competencies, values, and attitudes. The iceberg model for competency uses iceberg to explain the concept of competency as exposed in Figure 1. An iceberg consists of ten percent of its volume above water and the rest remains under the surface of the sea. Likewise, a competency consists of visible components such as knowledge and skills, but other behavioural components such as attitude, traits, thinking styles, self-image remains underneath the surface (Spencer & Spencer, 1993).



Figure 1. Iceberg Model for Competency (1976)

The components of the model can be associated with financial management skill since financial competency represents financial knowledge possessed by individuals. Financial skills reflect the effectiveness of individuals to plan and manage their finances. The final component is personal competency regarding financial behaviour or values (Kenayathulla & Jupri, 2017). This shows how people save money and practice prudent spending. Thus, in order to manage finance, an individual not only needs to equip him or herself with knowledge of finance but also



## MALAYSIAN ONLINE JOURNAL OF EDUCATIONAL MANAGEMENT (MOJEM)

the skills to plan, analyse, manage and discuss their personal finance. In addition, financial knowledge, attitudes and behaviour have been proved to be connected in specific ways as stated in study done by Peach and Yuan (2017). The relationship of all these components is nuanced, and the ignorance of financial knowledge could negatively impact the other aspects including behaviour and attitudes. Furthermore, a study done by Norvilitis et al. (2006) also highlighted the critical factor of financial knowledge in the financial management of individual. It is one of the strongest predictors in addition to other factors such as attitude towards money and personality factors.



*Figure 2. Conceptual Model*

Figure 2 is the conceptual framework for this study. These are the components that have been taken into consideration for this study. This study focuses on financial knowledge, behaviour and attitude. It is believed that each component influences one another. In order to classify an individual as a financially literate person these three aspects should be possessed and practiced. If one has the knowledge but do not implement what he or she possess, thus that individual is yet a financially literate individual. The knowledge which is obtained should be portrayed in one's attitude and behaviour. Financial knowledge could be obtained in various manner for instance, school, home, reading, courses and so on and so forth. Subsequently, the attitude and behaviour will influence the decision-making process. The attitude involves an individual mind's predisposition to certain ideas, values, people, systems, institutions (Spencer and Spencer, 1993). On the other hand, the behaviour relates to how the individual relates to the actual expression of feelings, action or inaction orally and through body language.

### ***Previous studies***

Gender has been identified as one of the factors that contribute to differences in financial literacy. According to Lusardi and Mitchell (2011), women are less likely to answer correctly, and they tend to answer even if they have no clue to the questions. However, they also pointed out that women are known to own better financial literacy and manage their own finance conservatively. Chen and Volpe (2002) has already noted an inconsistency with Lusardi and Mitchell's claim by extending evidence on women's skills in financial matters. The authors contended that women encounter more difficulty in performing financial calculations due to lower financial knowledge and this prevent them from making responsible financial decisions. In addition to that, Chen and Volpe (2002) has maintained their claim by raising significant gender variable impact on financial literacy. From that study the outcomes suggested that women are risk-averse when making final decisions thus they are less financially literate in comparison to men. They have emphasized that one of the crucial aspects is confidence and that is lacking in women compare to men.



## MALAYSIAN ONLINE JOURNAL OF EDUCATIONAL MANAGEMENT (MOJEM)

Another study conducted by Calamato (2010) explains that women perceive money as a passive approach while men tend to perceive money as power which will allow them to be socially desirable. On the contrary, a study conducted by Kimiyaghalam and Yap (2017), resulted in no significant differences in the level of financial literacy between men and women. Apart from that, another study by Edwards, Allen, and Hayhoe (2007) summarized that parents have a different expectation for their sons and daughters. Parents tend to share more with their sons in comparison to their daughters as they believe that their sons have more responsibility pertaining work and savings. A study conducted in Malaysia on financial literacy by Ibrahim, Harun and Isa (2009), stated that there were no differences in gender on financial knowledge but there are significant differences on financial attitude.

Education plays a major role in financial literacy. Amadeu (2009) points out subjects related to financial matters contribute positively to undergraduates with their financial management on a daily basis. This is supported by Lusardi and Mitchell (2011) by revealing their findings based on a study on accounting, economics and administration undergraduates, these students seem to have a better level of financial literacy. Likewise, individuals with less education prone to give wrong answers and often express that they do not know the answer. Thus, parents from low education are not able to provide reliable advice for their children on financial matters. A study conducted by Atkinson and Messy (2012) incorporated The Organization for Economic Co-operation and Development or International Network on Financial Education (OECD/INFE) across with 14 countries indicates that low income and educational level arises due to low financial literacy.

As reported by Beckmann (2013), individuals with high financial literacy tend to indulge more in saving instruments and investment for retirement. This shows that parents with high financial literacy tend to enlighten and equip their children with sufficient knowledge. However, that does not conclude that all parents with high education will ensure that they advise their children on financial matters because it involves parenting skills. The OECD (2005), stated that some individual with higher education and high-income consumers tend to be as ignorant as the less education and less income consumers. A study by Dohmen, Falk, Huffman, and Sunde (2010), describes that individuals with low IQ were found to be impatient and risk averse. Similarly, another study conducted by Meier and Sprenger (2013), added that individuals that are not willing to receive financial education are most likely to be impatient. There is research evidence that suggest the variety between individual's education and income (Lusardi, Michaud & Mitchell, 2011). Madhzan and Tabiana (2013) also claimed that the study conducted in Malaysia resulted in people with higher education for instance, Master or PhD tend to have higher savings in comparison to people with lower education.

A recent review in this matter by Herawati (2018) suggests that it is important for an individual to acquire financial matters as it plays a fundamental role in one's ability in comprehending, judging and acting accordingly in one's financial interests. Not only that, the author added that financial knowledge is undeniably a result of financial learning, thus it is the process of teaching and learning. Another study by Duarte and Hastings (2009), highlights that aspects such as marketing factors, yielding sub-optimal consumption and savings decisions are easily persuaded to the individuals who tend to have lower level of financial literacy. Financial literacy increases sharply with the level of income and education. The findings of the research shows that income and education are positively associated where people with high income and high education are less likely to use high-cost methods of borrowing and there are more likely to have a precautionary savings and well planned for their future retirement (San & Manual, 2016). It is common that people with less income usually have fewer liquid assets, investment assets, and real assets and have higher tendency to end up in debt (Berthoud & Kempson, 1992). Berthoud and Kempson (1992) affirms that low income individuals face more debts and tend to borrow more. Lusardi and Tufano (2015) claimed that financial literacy varies according to income and the type of employment. Moreover, Lusardi and Mitchell (2011), the level of financial literacy is higher for individuals who are employed than those who are unemployed in the world level. Apart from that, Robb and Woodyard (2011), draws the attention to the negative financial behaviours for instance overdraft or credit card due are due to income constrain.





## MALAYSIAN ONLINE JOURNAL OF EDUCATIONAL MANAGEMENT (MOJEM)

Another study by Madhzan and Tabiana (2013) on financial literacy in Malaysia claimed that income influences in an individual's saving behaviour. The higher the income the higher the savings. Selvadurai, Kenayathulla, and Siraj (2018) discusses Malaysian's elderly individual's retirement plan from another aspect. In that study, the results indicated that demographic factors and financial attitude plays a significant role in financial literacy to plan financial retirement planning. That study also indicated that the elderly people in Malaysia are facing dilemma of not having sufficient savings during their retirement period.

### **METHODS**

#### ***Research Design, Population and Sampling***

This study has adopted the quantitative research design that focuses on survey design. Survey designs are procedures in quantitative research in which researchers administer questionnaires to a smaller group of people (sample) to identify attitudes, opinions, behaviours, characteristics, or interests of a large group of people (population) (Creswell, 2012).

Population is usually described as the targeted respondents for the study. In this study, since the demographic factors are a vital factor therefore non-probability sampling method was opted for this study. In addition, two types of sampling method were used in this study. The sampling method which was used is the purposive sampling. Purposive sampling is used when the sample is collected according to the purpose of the study. Questionnaires were distributed to 44 students in a public and private higher institution. These samples consist of both higher and lower income students. In order to gain information from the low socio-economic background, the data was collected from 22 students from an existing group of B40 undergraduate students who are recipients of Alms. The name of the recipients was obtained from Lembaga Zakat Selangor (LZS). Initially, there are 56 names that were given to us by LZS. When the researchers contacted those samples, only 22 responded to these questionnaires. In addition, questionnaires were also randomly distributed to another 22 students who come from higher income group.

#### ***Instrumentation***

The research instrument was adopted from previous research by (Ramasamy, Kenayathulla, & Ghani (2018). The instrument used in this survey is a set of questionnaires which consists of Likert-scale questions. In this instrument, Likert scale items comprise of 5-point scale from 1 (strongly agree) to 5 (strongly disagree). This questionnaire comprises of 69 questions which is subdivided into four sections. Section A consist of 9 questions related to socioeconomic factors. Section B consist of 20 questions pertaining financial knowledge. Section C consists of 20 questions pertaining financial behaviour. Lastly, section D comprises of 20 questions pertaining financial attitudes. In terms of the validity of the survey questionnaire, the items in the questionnaire were validated by three experts from University of Malaya. The survey was created using an online survey tool.

#### ***Data Collection***

The questionnaires were distributed to undergraduate students who are recipients of Alms from Lembaga Zakat Selangor. This is to ensure that the undergraduate students are from lower socio background. A total of 22 responses were obtained from this group. At the same time, the online google survey was distributed to another 22 undergraduates from private institutions to ensure students from higher socio-economic status are taken into consideration in this analysis. Thus, the total respondents involved in this study was 44 students.



# MALAYSIAN ONLINE JOURNAL OF EDUCATIONAL MANAGEMENT (MOJEM)

## Data Analysis

The questionnaire was analysed using the software Statistical Package for Social Science (SPSS) version 22.0. Each question from the questionnaire was analysed individually based on the mean and standard deviation score. The mean and standard deviation scores were analysed. Two-sample t-test is used to compare the means of random samples drawn from these two populations. It is basically to compare if there are significant differences in the two-sample group based on the research questions. In this research, t-test is used to analyse the differences in financial literacy between lower and higher socio economics students and also to test whether students differ in terms of financial literacy by gender.

Table 1  
*Mean Score Interpretation*

Mean Score	Interpretation
1.00 – 2.33	Low
2.34- 3.66	Moderate
3.67 -5.00	High

The table 1 shows the mean score and its respective interpretation. This score will be used to interpret all descriptive analysis.

Table 2  
*Demographic background of respondents*

	Frequency	Percent
<b>Gender</b>		
Male	14	31.8
Female	30	68.2
Total	44	100
<b>Age</b>		
19 years	3	6.8
20 years	11	25
21 years	10	22.7
22 years	7	15.9
23 years	13	29.5
Total	44	100
<b>Race</b>		
Malay	27	61.4
Indian	11	25
Chinese	5	11.4
Others	1	2.3
Total	44	100
<b>Fathers Education</b>		
No certificate	13	29.5
Certificate	19	43.2
Diploma	3	6.8
Bachelor's degree	6	13.6
Master	2	4.5





# MALAYSIAN ONLINE JOURNAL OF EDUCATIONAL MANAGEMENT (MOJEM)

	Frequency	Percent
PhD	1	2.3
Total	44	100
<b>Mothers Education</b>		
No certificate	13	29.5
Certificate	23	52.3
Diploma	1	2.3
Bachelor's degree	5	11.4
Master	1	2.3
PhD	1	2.3
Total	44	100
<b>Father's Occupation</b>		
Not working	8	18.2
Retired	1	2.3
Labours	1	2.3
General workers	3	6.8
Semi-skilled workers	4	9.1
Own business	15	34.1
Skilled workers	3	6.8
Professionals	4	9.1
Managers	5	11.4
Total	44	100
<b>Mother's Occupation</b>		
Not working	18	40.9
Retired	3	6.8
Labours	0	0
General workers	6	13.6
Semi-skilled workers	2	4.5
Own business	5	11.4
Skilled workers	3	6.8
Professionals	4	9.1
Managers	3	6.8
Total	44	100
<b>Father's Monthly Income</b>		
Rm 1000 and below	13	29.5
Rm 1001-Rm 2000	10	22.7
Rm 2001-Rm 3000	6	13.6
Rm 3001 -Rm 4000	2	4.5
Rm 4001 – Rm 5000	4	9.1
Rm 5001 and above	9	20.5



# MALAYSIAN ONLINE JOURNAL OF EDUCATIONAL MANAGEMENT (MOJEM)

	Frequency	Percent
Total	44	100
<b>Mother's Monthly Income</b>		
Rm 1000 and below	24	54.5
Rm 1001-Rm 2000	8	18.2
Rm 2001-Rm 3000	3	6.8
Rm 3001 -Rm 4000	1	2.3
Rm 4001 – Rm 5000	2	4.5
Rm 5001 and above	6	13.6
Total	44	100

## RESULTS

### *Level of financial knowledge*

Table 3  
*Financial Knowledge*

		Descriptive Statistics					Mean	SD	Level
Variable	Questions	SD F (%)	D F (%)	QA F (%)	A F (%)	SA F (%)			
B1	Budget is a type of financial planning	0 (0)	0 (0)	7 (15.9)	25 (56.8)	12 (27.3)	4.114	.6547	HIGH
B2	The budget guides me to spend prudently	0 (0)	1 (2.3)	5 (11.4)	23 (52.3)	15 (34.1)	4.182	.7241	HIGH
B3	My salary or wage is also known as income	0 (0)	2 (4.5)	8 (18.2)	18 (40.9)	16 (36.4)	4.091	.8577	HIGH
B4	The interest rate is based on the types of financial institutions such as banks	1 (2.3)	1 (2.3)	12 (27.3)	23 (52.3)	7 (15.9)	3.773	.8315	HIGH
B5	The 10 percent allocation for savings is a good idea	0 (0)	1 (2.3)	10 (22.7)	22 (50.0)	11 (25.0)	3.977	.7621	HIGH
B6	Benefits are loan terms when I borrow money from financial institutions	0 (0)	5 (11.4)	9 (20.5)	21 (47.7)	9 (20.5)	3.773	.9115	HIGH
B7	Money, I have used is also known as expenditure	0 (0)	0 (0)	8 (18.2)	20 (45.5)	16 (36.4)	4.182	.7241	HIGH
B8	The budget contains both transactions namely income and expenses	0 (0)	0 (0)	11 (25.0)	21 (47.7)	12 (27.3)	4.023	.7310	HIGH
B9	The purchase of insurance policies is a good investment	0 (0)	3 (6.8)	12 (27.3)	20 (45.5)	9 (20.5)	3.795	.8513	HIGH
B10	When I borrow money from financial institutions, I will try to get the lowest interest rates.	1 (2.3)	2 (4.5)	11 (25.0)	15 (34.1)	15 (34.1)	3.932	.9976	HIGH



# MALAYSIAN ONLINE JOURNAL OF EDUCATIONAL MANAGEMENT (MOJEM)

Variable	Questions	Descriptive Statistics					Mean	SD	Level
		SD F (%)	D F (%)	QA F (%)	A F (%)	SA F (%)			
B11	Borrowing money from banks is a disadvantage to me rather than using the savings that I have	1 (2.3)	5 (11.4)	16 (36.4)	15 (34.1)	7 (15.9)	3.500	.9765	MODE- RATE
B12	The use of credit cards is equivalent to me borrowing money from financial institutions	0 (0)	2 (4.5)	13 (29.5)	17 (38.6)	12 (27.3)	3.886	.8685	HIGH
B13	The use of debit cards means I spend using my savings	1 (2.3)	3 (6.8)	7 (15.9)	17 (38.6)	16 (36.4)	4.000	1.0116	HIGH
B14	Certain interest rates apply to me when saving or investing money in financial institutions	1 (2.3)	1 (2.3)	12 (27.3)	23 (52.3)	7 (15.9)	3.773	.8315	HIGH
B15	Interest rates are high when I borrow money from financial institutions	0 (0)	5 (11.4)	14 (31.8)	19 (43.2)	6 (13.6)	3.591	.8712	MODE- RATE
B16	The increase in the price of goods reduces consumer purchasing power	1 (2.3)	3 (6.8)	7 (15.9)	16 (36.4)	17 (38.6)	4.023	1.0227	HIGH
B17	Buying goods in debt will reduce the purchasing power of consumers in the future	3 (6.8)	4 (9.1)	9 (20.5)	21 (47.7)	7 (15.9)	3.568	1.0869	MODE- RATE
B18	Families need to have an emergency savings of at least 3 months of family income	0 (0)	0 (0)	11 (25.0)	14 (31.8)	19 (43.2)	4.182	.8148	HIGH
B19	Investing in own money in financial institutions is profitable rather than borrowing for investment	0 (0)	4 (9.1)	12 (27.3)	17 (38.6)	11 (25.0)	3.795	.9296	HIGH
B20	Credit card ownership increases the purchasing power of users	1 (2.3)	8 (18.2)	9 (20.5)	18 (40.9)	8 (18.2)	3.545	1.0665	MODE- RATE

In order to address the first research question on financial knowledge, Table 3 illustrates the frequency, mean score, and standard deviation. Section B consists of B1 to B20. The findings indicate that the respondents have high level of financial knowledge in almost all the items except four items where the results show moderate level of financial knowledge. The highest score is for the item that the budget guides me to spend prudently ( $M=4.182$ ,  $SD=0.7241$ ). The moderate level is scored for the item that borrowing money from banks is considered as disadvantage rather than using their own savings ( $M=3.5000$ ,  $SD=0.9765$ ). Another item that has moderate level is interest rates are high when "I borrow money from financial institutions" ( $M=3.591$ ,  $SD=0.8712$ ). Besides this, other items that show moderate level is the knowledge that buying goods in debt will reduce the purchasing power of consumers in the future ( $M=3.568$ ,  $SD=1.0869$ ). Moderate level of knowledge is also observed in item that the credit card ownership increases the purchasing power of users ( $M=3.568$ ,  $SD=1.0869$ ).



# MALAYSIAN ONLINE JOURNAL OF EDUCATIONAL MANAGEMENT (MOJEM)

## *Level of Financial Behaviour*

Table 4  
*Financial Behaviour*

Variable	Questions	Descriptive Statistics					Mean	SD	Level
		SD F (%)	D F (%)	QA F (%)	A F (%)	SA F (%)			
C1	My purchase is according to the needs of life	0 (0)	2 (4.5)	15 (34.1)	17 (38.6)	10 (22.7)	3.795	.8513	HIGH
C2	I compared prices before buying a product that involves goods and services	0 (0)	2 (4.5)	8 (18.2)	17 (38.6)	17 (38.6)	4.114	.8685	HIGH
C3	I explained the PTA fee before the period ends	1 (2.3)	3 (6.8)	9 (20.5)	18 (40.9)	13 (29.5)	3.886	.9934	HIGH
C4	I analyse the prevailing exchange rates before making purchases of imported products	0 (0)	7 (15.9)	11 (25.0)	14 (31.8)	12 (27.3)	3.705	1.0472	HIGH
C5	I plan a budget for the long term	0 (0)	4 (9.1)	14 (31.8)	16 (36.4)	10 (22.7)	3.727	.9242	HIGH
C6	I prevent from avoiding financial assistance when desperate	2 (4.5)	7 (15.9)	16 (36.4)	16 (36.4)	3 (6.8)	3.250	.9675	MODE- RATE
C7	I plan on spending before making a purchase transaction	0 (0)	2 (4.5)	13 (29.5)	21 (47.7)	8 (18.2)	3.795	.7947	HIGH
C8	I save a fixed amount of money every month	1 (2.3)	11 (25.0)	14 (31.8)	12 (27.3)	6 (13.6)	3.250	1.0593	MODE- RATE
C9	I collect information about successful individual experiences before the purchase transaction	4 (9.1)	7 (15.9)	12 (27.3)	14 (31.8)	7 (15.9)	3.295	1.1926	MODE- RATE
C10	I analyse the strengths and shortcomings of a product	1 (2.3)	3 (6.8)	10 (22.7)	17 (38.6)	13 (29.5)	3.864	1.0021	HIGH
C11	I analyse my financial position before purchasing items	0 (0)	2 (4.5)	11 (25.0)	19 (43.2)	12 (27.3)	3.932	.8463	HIGH
C12	I am independent to the survival of my life	0 (0)	1 (2.3)	14 (31.8)	16 (36.4)	13 (29.5)	3.932	.8463	HIGH
C13	I prioritize quality over product prices	0 (0)	2 (4.5)	15 (34.1)	17 (38.6)	10 (22.7)	3.795	.8513	HIGH
C14	I am concerned with the warranty period or product warranty	0 (0)	0 (0)	12 (27.3)	18 (40.9)	14 (31.8)	4.045	.7762	HIGH
C15	I am saving my pocket money every day	0 (0)	9 (20.5)	16 (36.4)	15 (34.1)	4 (9.1)	3.318	.9092	MODERATE



# MALAYSIAN ONLINE JOURNAL OF EDUCATIONAL MANAGEMENT (MOJEM)

Variable	Questions	Descriptive Statistics					Mean	SD	Level
		SD F (%)	D F (%)	QA F (%)	A F (%)	SA F (%)			
C16	I plan my expenditure	0 (0)	2 (4.5)	12 (27.3)	20 (45.5)	10 (22.7)	3.864	.8238	HIGH
C17	I list the products according to my priority before purchasing items	0 (0)	1 (2.3)	14 (31.8)	16 (36.4)	13 (29.5)	3.932	.8463	HIGH
C18	I spend according to my needs	0 (0)	1 (2.3)	12 (27.3)	17 (38.6)	14 (31.8)	4.000	.8353	HIGH
C19	I reflect upon my expenditure	1 (2.3)	3 (6.8)	11 (25.0)	19 (43.2)	10 (22.7)	3.773	.9612	HIGH
C20	I spend according to my planning	0 (0)	6 (13.6)	12 (27.3)	21 (47.7)	5 (11.4)	3.568	.8733	MODE- RATE

To address the research question on the levels of financial behaviour, Table 4 illustrates the mean score value, standard deviation and the frequency of all the variables from C1 to C20. There are 13 items that demonstrated as high level with the mean score above 3.667. The item that has the highest score is that respondents compare prices before buying products, goods or services with (M=4.114). There are several items in financial behaviour that indicates moderate level. First item is that the respondents prevent from avoiding financial assistance when desperate (M=3.25, 0.9675). Another item is that the respondent saves a fixed amount of money every month (M=3.25, 1.0593). Other items are the respondents collect information about successful individual experiences before the purchase transactions (M=3.295, 1.196), the respondents are saving their pocket money daily (M=3.318, SD=9092). Another item is the respondents spend according their planning (M=3.568, SD=0.8733).

## ***Level of Financial Attitude***

Table 5  
*Financial Attitude*

Variable	Questions	Descriptive Statistics					Mean	SD	Level
		SD F (%)	D F (%)	QA F (%)	A F (%)	SA F (%)			
D1	Money is a shopping tool	0 (0)	8 (18.2)	11 (25.0)	17 (38.6)	8 (18.2)	3.568	.9976	MODE- RATE
D2	I spend based upon the current needs compared to the future needs	1 (2.3)	5 (11.4)	17 (38.6)	14 (31.8)	7 (15.9)	3.477	.9762	MODE- RATE
D3	I feel satisfied when money is spent	3 (6.8)	8 (18.2)	19 (43.2)	10 (22.7)	4 (9.1)	3.091	1.0302	MODE- RATE
D4	I practice paying in cash during the purchase of items	0 (0)	6 (13.6)	14 (31.8)	14 (31.8)	10 (22.7)	3.636	.9904	MODE- RATE
D5	I am prudent in the purchase of a product	0 (0)	5 (11.4)	11 (25.0)	18 (40.9)	10 (22.7)	3.750	.9432	HIGH
D6	I like to buy used items due to the price factor	3 (6.8)	10 (22.7)	9 (20.5)	16 (36.4)	6 (13.6)	3.273	1.1687	MODE- RATE
D7	I like to borrow money from a financial institution	9 (20.5)	15 (34.1)	7 (15.9)	10 (22.7)	3 (6.8)	2.614	1.2430	MODE- RATE



# MALAYSIAN ONLINE JOURNAL OF EDUCATIONAL MANAGEMENT (MOJEM)

Variable	Questions	Descriptive Statistics					Mean	SD	Level
		SD F (%)	D F (%)	QA F (%)	A F (%)	SA F (%)			
D8	I love to shop during promotions	1 (2.3)	1 (2.3)	14 (31.8)	18 (40.9)	10 (22.7)	3.795	.9042	HIGH
D9	I have provided financial information for future use	0 (0)	5 (11.4)	15 (34.1)	19 (43.2)	5 (11.4)	3.545	.8478	MODE- RATE
D10	I am aware about the financial status of my parents	0 (0)	1 (2.3)	10 (22.7)	16 (36.4)	17 (38.6)	4.114	.8413	HIGH
D11	I'm trying to alleviate the hardship of my parents	1 (2.3)	1 (2.3)	6 (13.6)	19 (43.2)	17 (38.6)	4.136	.9045	HIGH
D12	Money is extremely important in life	0 (0)	1 (2.3)	5 (11.4)	16 (36.4)	22 (50.0)	4.341	.7759	HIGH
D13	I'm happy with the financial assistance of my parents	0 (0)	3 (6.8)	7 (15.9)	21 (47.7)	13 (29.5)	4.000	.8627	HIGH
D14	I'm grateful for the money my parents are giving me.	0 (0)	0 (0)	7 (15.9)	20 (45.5)	17 (38.6)	4.227	.7108	HIGH
D15	I communicate with my parents when I have a financial crisis	0 (0)	8 (18.2)	10 (22.7)	14 (31.8)	12 (27.3)	3.682	1.0734	HIGH
D16	My expenses are in line with the budget	0 (0)	6 (13.6)	17 (38.6)	13 (29.5)	8 (18.2)	3.523	.9521	MODE- RATE
D17	I am confident with the creditors' concept of loads / liability to myself	0 (0)	5 (11.4)	14 (31.8)	15 (34.1)	10 (22.7)	3.682	.9590	HIGH
D18	I am confident that the concept of efficient and effective financial management can make an impact towards me	0 (0)	3 (6.8)	12 (27.3)	16 (36.4)	13 (29.5)	3.886	.9205	HIGH
D19	Saving practice is not a culture of my life	3 (6.8)	14 (31.8)	16 (36.4)	8 (18.2)	3 (6.8)	2.864	1.0251	MODE- RATE
D20	I am an individual who is brave to face risks	1 (2.3)	6 (13.6)	19 (43.2)	12 (27.3)	6 (13.6)	3.364	.9667	HIGH

To address the research question on financial attitude, Table 5 shows Section D on financial attitude of the respondents. There are 11 high level variables with high mean score. Though respondents scored high for many items, there are several items in financial attitude that has medium scores. The items are as follow: Money is a shopping tool (M=3.568, SD=0.9976); I spend based on the current needs compared to future needs (M=3.477, SD=0.9762), I feel satisfied when money is spent (M=3.091, 1.0302), I practice paying in cash during the purchase of items (M=3.636, SD=0.9904). I like to buy used items due to the price factor (M=3.273, SD=1.1687), I like to borrow money from a financial institution (M=2.614, SD=1.2430), I have provided financial information for future use (M=3.545, SD=0.8478), my expenses are in line with the budget (M=3.523, SD=0.9521), saving practice is not a culture of my life (M=2.864, SD=1.0251).





Table 6  
*Mean score for financial literacy*

	N	Mean	Std. Deviation	Level
Financial Knowledge	44	3.9061	.59703	HIGH
Financial Attitude	44	3.6284	.49958	MODERATE
Financial Behaviour	44	3.7420	.68062	HIGH

Table 6 shows the overall mean score for all the dimensions of financial literacy. For the financial knowledge, the mean is (Mean=3.9061, SD=.59703). Since the mean is greater than 3.66, it falls into the high category. Therefore, the level of financial knowledge among the respondents is high. The overall mean score for the financial attitude section is (M=3.6284, SD=0.49958). When the mean is greater than 2.534 and less than 3.66, it falls into the moderate category. Overall the mean score for the financial behaviour is Mean=3.7420, SD=.68062. The Mean which is greater than 3.66 falls into the high category. Therefore, the level of financial behaviour among undergraduates are high.

#### ***Differences of Financial Literacy Based on Socio-Economic Status***

Table 7  
*Independent T-Test for differences based on socio-economic status*

		Independent Samples Test								
		Levene's Test for Equality of Variances				t-test for Equality of Means				
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Interval Difference	Confidence of the
									Lower	Upper
TOTAL	Equal variances assumed	.178	.675	-.635	42	.529	-5.95455	9.37603	-24.87614	12.96705
	Equal variances not assumed			-.635	42	.529	-5.95455	9.37603	-24.87614	12.96705

The normality testing has been conducted on the dependent variable that is the financial literacy. The skewness and kurtosis for the financial literacy are 0.472 and -0.897 respectively. These values are within the acceptable range. The independent t-test analysis is conducted to determine whether there are significant differences in financial literacy of undergraduates from lower-income and higher-income. The table 7 shows the t-test results. Based on the analyses, there was no significant difference in terms of financial literacy for lower socio-economic students (M=222.1364, SD=31.08712) and higher income students (M=228.0909, SD=31.10644) with  $t(42) = -.635$ ,  $p = .529$ . Therefore, the null hypothesis is accepted.



***Differences of Financial Literacy Based on Gender***

Table 8

*Independent T-Test for differences based on gender*

		Independent Samples Test								
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
TOTAL	Equal variances assumed	.374	.544	-.369	42	.714	-.06214	.16828	-.40175	.27746
	Equal variances not assumed			-.375	42	.711	-.06214	.16570	-.40244	.27815

An independent T-test is conducted to determine whether there are significant differences in the level of financial literacy among female and male undergraduate students. The table 8 shows the T-test results. There was no significant difference in the level of financial literacy based on gender as the scores for male ( $M=3.7095$ ,  $SD=.50501$ ) and for female ( $M=3.7717$ ,  $SD=.52647$ ) with  $t(42) = -.369$ ,  $p = .714$ . Therefore, the null hypothesis is accepted.

## DISCUSSION

According to the results obtained from the analysis on the level of financial knowledge, it was evident that the undergraduate students have high level of financial literacy. Majority of respondents agreed that they are aware of financial terms and information regarding financial matters such as budget, interest rate, planning, income, expenditure, savings, loan terms, and transactions. On the other hand, respondents agreed that budget is a type of planning which allows them to spend prudently. At the same time, they do agree that 10% of an individual's income is a good idea to be allocated as savings. Remund (2010) states that knowledge of savings, loan, investment; budget making must also be considered when reviewing the level of financial literacy among students. Respondents are also aware of other types of financial savings. Majority respondents agreed that purchasing insurance policy is a beneficial investment. Subsequently, respondents have a good grasp of purchasing power. Based on the results obtained, it was evident that respondents have substantial knowledge on the differences and consequences of a debit card and a credit card.

In addition to that, respondents are willing to use their savings rather than getting financial assistance from financial institution which also includes credit cards. Apart from that, respondents are aware that different financial institutions provide different interest rate. At the same time, they are mindful that that interest rate could be negotiated to obtain the lowest available interest rate. Regardless of knowing the definition and being conscious on the concept yet there are certain variables that resulted in moderate level. Those items are borrowing money from banks is considered as disadvantage rather than using their own savings, interest rates are high when borrowing money from financial institutions. buying goods in debt will reduce the purchasing power of consumers in the future, credit card ownership increases the purchasing power of users. This shows that there are still respondents who are still ambiguous regarding money usage on certain circumstances. These require individuals to analyse and interpret according to the available options according to their situation.



## MALAYSIAN ONLINE JOURNAL OF EDUCATIONAL MANAGEMENT (MOJEM)

According to the results obtained on the level of financial behaviour, respondents purchase based on their needs. This is a good behaviour to start off since early years in college. In addition to that the respondents ensure that they compare prices before buying products, goods or services. Moreover, the respondents indicated that they are aware of the payable amount before agreeing to pay. Thus, it clearly indicates that respondents are able to analyse and make decisions rationally. Almost majority of the respondents that they planned budget for a long term. Simultaneously this proves that respondents plan in order to accommodate the budget which has been prepared upon spending. Besides, respondents also stated they analyse the strength and shortcomings of any situation to ensure sustainability. Nevertheless, respondents are also concerned about products' warranty. The respondents too prefer to check the exchange rates before buying imported products. There are several items in financial behaviour that indicates moderate level such as avoiding financial assistance when desperate, saving a fixed amount of money every month, collect information about successful individual experiences before the purchase transactions, saving their pocket money daily and spending according their planning. Robb and Woodyard (2011) draws the attention to the negative financial behaviours for instance overdraft or credit card due to income constrain. This also tells that not all individuals prefer receiving financial assistance during desperate time. This could be due to many reasons such fluctuations of economy, purchasing power, monthly income, commitment and unexpected expenditure. At the same time, some respondents collect individuals' experiences to gain insights before making a purchase transaction. Further, it is added that respondents try to analyse the financial position, before making any purchases. However, they tend to prioritise quality over product prices. Therefore, this might affect their spending behaviour.

The key finding for this question is to identify the level of financial attitude among undergraduates. Respondents agreed that they love to shop during promotion. On the other hand, respondents believe they are aware of their family's financial status. Additionally, they claim that they are trying to alleviate the hardship of their family's financial status. The respondents also emphasized that money is an important element in life. Most of all, respondents are content with the financial assistance provided by their family to them. They believe they are prudent in purchasing products.

Respondents tend to spend based on their current needs compared to future needs. This shows that their saving capacity will reduce if individuals practise this often. According to the respondents, they believe money is a tool for shopping. Likewise, respondents tend to feel satisfied when money is spent. This could be acceptable if it is for needs but not wants. On the other hand, majority respondents suggested that they don't mind buying used items due to the price factor involved. Sabri et al. (2008) in a study conducted on college students found that most students do not know where the money was spent because they buy things that are not necessary and borrow money to their friends. There are also students who ignore the food simply to save money to buy luxury items. The findings of the research indicate that experience as current user, pattern of spending, saving and financial literacy are significant predictors of financial attitude (Sabri et al., 2008). Another item in financial attitude that scores average is expenses are in line with the budget. This is consistent with previous studies that shows younger generation rarely practice financial skills such as basic budgeting, applying the concept of prudent spending, developing a regular savings plan or planning for long-term needs (Pillai et al., 2010). Thus, this has been an issue for the younger generation.

In addition, another key finding is to identify if there are significant differences in student's financial literacy between the low-income and high-income undergraduates. Another study by, Madhzan and Tabiana (2013) on financial literacy in Malaysia claimed that income appears to influence an individual's saving behaviour. Apart from that, Robb and Woodyard (2011) draws attention to the negative financial behaviours for instance overdraft or credit card due to income constrain. However, based on the results obtained, there is no significant differences in student's financial literacy between the low-income and high-income undergraduates. It is surprising since literature indicates that socio economic status is an important indicator of financial literacy. Thus, this needs further investigation in future studies.



## MALAYSIAN ONLINE JOURNAL OF EDUCATIONAL MANAGEMENT (MOJEM)

Based on the results obtained on the differences in gender, there are no significant differences in student's financial literacy between male and female students. The findings indicate that male and female undergraduates have similar level of financial literacy regardless of their gender. The results of this study are consistent with the study conducted by Kimiyaghalam and Yap (2017) which shows no significant differences in the level of financial literacy between men and women.

### CONCLUSION AND IMPLICATIONS

The findings show the financial literacy of undergraduate students in terms of financial knowledge, financial behaviour and attitude. The result shows that students have high level of financial knowledge and attitude but medium level of financial attitude. However, there are certain aspects that these students possess average skills. The findings also show that respondent has moderate knowledge in terms of interest rates when borrowing money from financial institution, whether it is better to borrow money from bank or use money from saving and in respect to whether credit card ownership increases the purchasing power and in terms of the expenditure meeting the budget. In terms of financial behaviour, respondents have high skills except in terms of avoiding financial assistance when desperate, spending according to budget, saving fixed amount every month, collecting information about successful individual experiences before the purchase transaction. Similarly, respondents have high skills in terms of financial attitude except in making wise decisions involving whether to buy used items, borrowing money from financial institution, providing financial information for future use.

There are a few implications that can be derived from the findings of this study. The study would be beneficial to policy makers, policy implementers and diverse stakeholders as it provides insights on the level of financial literacy among undergraduates. Thus, allowing them to come up with new ideas to incorporate the financial literacy as a module that can be taught at an early age in primary and secondary schools. In addition, this finding shows that there need to be exposure at the university level for students to be involved in financial literacy programs or courses. There need to be a smart partnership with financial institutions so that students are exposed to financial literacy workshops and will be provided hands on experiences. Another implication is that, undergraduates themselves will be able to judge their own financial literacy level to know how important it is to be a financially literate individual in the current era. This study would also allow the undergraduates to be a more efficient in financial decision making. This will ensure that there is a smooth transition process when they move from financially dependent to financially independent when they graduate and join the workforce.

Based on this study, recommendations for future studies that need to be taken into consideration are stated as follows. The number of respondents can be increased in a larger sample size which would allow the study to be generalised. In addition, perhaps students from various states and from different universities can be chosen from all over Malaysia instead. Thus, any appropriate policy interventions will require future studies with large samples both from lower and higher economic students

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