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Does Financial Education Matter? Education Literacy among Undergraduates in Malaysia

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Abstract: *Low financial literacy is a global phenomenon. In an increasingly materialistic and complex world, lack of financial literacy can lead to financial problems, even among college and university students. Despite the importance of financial literacy among the young, there is still a dearth of studies on financial literacy and behaviour. Hence, a survey was carried out to provide some insights on this topic. A total of 605 students from four institutions of higher learning in Klang Valley, Malaysia were selected using convenience sampling to provide information on financial literacy, attitude and behaviour as well as financial socialisation factors. The survey revealed that college and university students generally have low financial literacy, a tenuous link between knowledge and attitude but a close association between attitude and behaviour. Parental guidance and life experience were significant predictors of financial knowledge but year of study was not an important predictor. Hence, there is a need to promote experiential learning on financial matters, as financial literacy will lead to positive attitude and good practices.*

Keywords: Insurance financial attitude, financial behaviour, financial knowledge, financial literacy, financial behaviour, undergraduates
JEL classification: D14, I22

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1. Introduction

Financial literacy, defined broadly to include knowledge of financial matters and the skills to make good use of this knowledge, is recognised as important for the individuals and the nation (Organisation for Economic Co-operation and Development [OECD], 2009). At the individual level, financial literacy

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leads to better financial decisions in managing risks and improving wellbeing of the individual. At the government level, it helps citizens make better financial decisions, protect consumers and investors and at the national level, the prudent use of financial services leads to financial market stability, confidence in financial markets and economic growth. Conversely, lack of financial literacy can result in financial difficulties (Alhabeeb, 1999), consumer and investor vulnerability to fraud, and market instability to the detriment of economic growth. Yet, empirical studies show level of financial literacy is low in advanced countries with detrimental consequences (Lusardi, Michaud, & Mitchell, 2013).

The impact of poor financial literacy is even more devastating in developing economies, where, access to financial services and the range of services provided is much more limited and consumer protection minimal. Low financial literacy may lead to poor financial decision-making, with dire consequences.

Why is the level of financial literacy so low globally? A growing body of work, albeit focusing on developed countries, has produced a range of answers (see next section). However, for developing or emerging economies, context matters, given the heterogeneity of environments. Rather than to search for valid generalisations, a case study approach may yield more meaningful insights.

At what point in an individual’s life should one begin to learn about financial matters? Ideally, it has to start when one begins to makes transaction decisions, usually upon leaving home for the first time in one’s life. University and college students need to have knowledge and skills to manage their expenses and income (from parents, loan and scholarship). The attitude of young adults towards spending plays a vital role in sustainability of their finance and is a significant variable in financial prudence (Pillai, Carlo, & D'souza, 2010). Hence, many studies on financial literacy focus on college students (Beal & Delpachitra, 2003; Bianco & Bosco, 2001; Borden, Lee, Serido, & Collins, 2008; Chen & Volpe, 1998; Cude, Lawrence, Lyons, Marks, Machtmes, Metzger, & LeJeune, 2006; Ibrahim, Harun, & Isa, 2009; Danes & Hira, 1987; Falahati, Paim, Ismail, & Haron, 2011; Ibrahim, Harun, & Isa, 2009; Jorgensen, 2007; Loke, Chow, & Tang, 2012; Mandell, 1997; Markovich & DeVaney, 1997; McKenzie, 2009; Shaari, Hasan, Mohamed, & Sabri, 2013; Mckenzie, 2009; Volpe, Chen, & Pavlicko, 1996).

This paper focuses on Malaysia, an upper middle-income country, which aspires to achieve high-income status by 2020. Financial literacy among young Malaysians is of special interest for several reasons: a) Is financial literacy in Malaysia converging with advanced countries; b) Its level of household debt has been increasing at an alarming rate of 12.7% annually over the last decade accounting for 86.8% of GDP in December 2013 making Malaysia the highest in Asia (BNM Annual Report, 2014); c) An increase in bankruptcy among younger Malaysians (The Malaysian Insider, 2014). This age selectivity, while also found in other countries, is of particular interest given that young cohorts are better educated than older ones. Does this mean that financial education has not had much impact on the young? In view of the seriousness of this study, the present study was undertaken to find out the level of financial literacy among college and university students, with the hope that it will contribute to a better understanding of the root cause of bankruptcy among young people.

In light of the above, this study seeks to ascertain students' sources of financial knowledge, reasons for the lack of knowledge, their attitudes toward financial management and their spending behaviour. The location of the study is Klang Valley, the largest urban conurbation in Malaysia in which both the largest city and Federal capital are located. Based on findings from this study, some suggestions will be made to improve financial literacy among the young, namely through better financial education and parental guidance.

This paper is organised as follows: The next section presents a brief literature review on the topic, with a particular focus on Malaysia. Section 3 presents the research methodology while Section 4 discusses the results. Section 5 concludes the paper.

2. Literature Review

Theoretical analyses on financial literacy are sparse. This is because the microeconomic theories of saving assume that savers possess the required financial knowledge (Modigliani & Brumberg, 1954; Friedman, 1957). In recent years, however, more studies have emerged on the link between financial knowledge, saving and investment (e.g. Lusardi et al., 2013).

In contrast, there are more empirical studies on developed countries. Using constructed measures of financial literacy (Lusardi & Mitchell, 2008), these studies found that there is a general lack of financial knowledge, and there has been little improvement in financial literacy over time (Hilgert, Hogarth, & Beverly, 2003; Danes & Hira, 1987; Bianco & Bosco, 2001; Ibrahim et al., 2009; Moore, 2003).

O’Connell (2009), Danes and Hira (1987), Volpe et al. (1996), Beal and Delpachitra (2003), McKenzie (2009), Markovich and DeVaney (1997) and Ansong and Gyensare (2012) found that the level of financial literacy among students is low and even if students are financially literate, this does not necessarily result in prudent financial behaviour (Chen & Volpe, 1998; Cude et al., 2006; Hilgerth et al., 2003; Jorgenson, 2007; Jones, 2005; Borden et al., 2008).

There have been a number of studies on financial literacy among college students and working adults in Malaysia. Majority of the studies found that Malaysians have poor financial literacy (Janor, Yakob, Hashim, & Wel, 2016; Loke, 2015; Tan, Hoe, and Hung, 2011). However, Ali, Rahman, and Bakar (2015) found financial literacy to be moderate though the level of financial literacy varies according to gender and field of study. Thus, Shaari et al. (2013), Ibrahim et al. (2009), and Sabri and Teo (2014) found male students have higher levels of financial literacy than female students, while students majoring in business were more financially savvy than others. As expected, senior students tended to have higher financial literacy than junior students. However, Loke et al. (2012) reported that females had higher financial literacy levels than males. Falahati et al. (2011), Shaari et al. (2013) and Ibrahim et al. (2009) found that financial knowledge did not translate into proper money management.

Several studies sought to determine the sources of financial knowledge. Albeerdy and Gharleghi (2015) found the determinants of financial literacy among college students to be education and attitude towards money. Loke (2015) however, reported that ethnicity, type of profession and the access to government pension have significant effects on levels of financial knowledge. Tan et al. (2011) found that financial knowledge was acquired at home rather than in school. A few studies had examined the impact of financial literacy and found it to be salutary for savings (Mahdzan & Tabiani, 2013; Tan et al., 2011), “financial satisfaction” (Ali et al., 2015) and financial behaviour (Zawiyah, Maimun, & Masoud, 2010).

All these studies recommend the strengthening of financial education in Malaysia to address the low levels of financial literacy (Awang & Jani, 2009; Yusof, 2014). This call is all the more urgent because subsequent studies have shown that poor financial literacy translated into poor financial performance (Falahati et al., 2011). What is not clear is the basis of this recommendation, given that few, if any, of these studies highlight the efficacy of financial education. Often assumed in the past studies is that financial literacy, manifested as knowledge, would translate into prudent and appropriate financial behaviour. Again, such an assumption was not tested. This paper seeks to test the above propositions and provide empirical evidence to bridge research gaps.

3. Methods

3.1 Sample Selection and Data Collection

A survey was conducted among 605 college and university students in Klang Valley and its data collected for analysis. Owing to budgetary and time constraints, the survey was confined to only four institutions of higher learning, selected purposively using convenience sampling. They were the University of Malaya (UM), University Tunku Abdul Rahman (UTAR), Help University and Raffles International College of Higher Education. Quota sampling was then used to select the respondents to include both sexes, different year of study, discipline and ethnicity, as past studies found wide variations in financial literacy and knowledge across these variables. Efforts were made to select sufficient numbers of respondents for each sub-group. With an overall sample size of 650, the margin of error for proportion p=0.5 would be around 4% at 95% confidence level.

Permission was sought from lecturers to explain the purpose of the survey to students before distributing the structured questionnaires for self-reporting on a voluntary basis. The research team also approached students individually at various locations such as canteen and outside lecture halls to ensure a wide coverage. Out of a total of 650 survey questionnaires, 555 completed forms were returned, representing a response rate of 93%.

3.2 Questionnaire Design and Measurements of the Study Variables

The questionnaire was designed based on an extensive review of literature (Albeerdy & Gharleghi, 2015; Beal & Delpachitra, 2003; Bianco & Bosco, 2001; Borden et al., 2008; Chen & Volpe, 1998; Cude et al., 2006; Dahlia et al., 2009; Ibrahim et al., 2009; Lusardi, 2003; Lusardi et al., 2013; Lusardi, 2008; Lusardi & Mitchell, 2007; 2008). The questionnaire assessed the respondent's financial knowledge, financial attitude, financial behaviour and financial socialisation factors of financial knowledge/literacy. The number of correct responses to a set of 19 questions on general financial knowledge such as compound interest, inflation, time value of money, stock market, mutual funds, bonds and mortgages (coded 1 for correct answer, 0 otherwise) was used to measure respondents' financial knowledge. Respondents' attitude toward financial matters was assessed by asking questions pertaining to their daily expenses, budget preparation, savings, investments and insurance purchases. Financial behaviour was assessed through their efforts in budgeting, making price comparisons, purchasing, savings and investment. Besides socio-demographic variables, peer influence (such as friends, parents), newspaper reading and internet use which were deemed to affect respondents' financial literacy, were also examined.

Students' financial knowledge, attitudes and practices were measured based on a five-point scale from 1 to 5 with 5 being the most knowledgeable, having the best attitude and best practices. Scales ranging from 1 to 3 is considered as low level and scale ranged from 4 to 5 is considered as high level. Data analysis was carried out using SPSS. The dependent variables (financial knowledge, attitude and behaviour) were cross-tabulated with the independent variables to examine group differences. Independent sample *t*-tests and F test (through ANOVA) were used to test the mean differences in financial knowledge, attitudes and behaviour across the independent variables. Pearson's correlation was used to find the association between financial behaviour and financial knowledge and attitude.

4. Results and Discussion

4.1 Profile of Respondents

Female and male students made up about 68.1% and 31.9% of the sample respectively. Over representation of females could be attributed to their higher class attendance and response rate compared with the males. The over-representation of Chinese students (68.5%), Business/Economics/ Finance/Accounting students (65.4%) and under-representation of third year students (8.6%) was due to convenience sampling. The distribution of respondents by gender, ethnicity, year of study and streams is shown in Table 1.

Table 1: Percentage distribution of respondents by characteristics

Characteristics	Percentage	Characteristics	Percentage
Gender		***Year of Study***	
Male	31.9	Foundation/Dip/Advanced Dip	37.5
Female	68.1	1st Year of Degree	20.2
		2nd Year of Degree	33.7
Ethnicity		3rd Year of Degree	8.6
Malay	19.3		
Chinese	68.5	***Discipline of Study***	
Indian	7.0	Business/Econs/Fin/Acc	65.4
Others	5.2	Science	9.2
		Art and Social Science	18.0
		Interior Design	3.6
		Others	3.8

Notes: Dip = Diploma.
Econs, Fin, Acc = Economics, Finance and Accounting respectively.

4.2 Financial Knowledge

The distribution of respondents based on number of correct answers to questions pertaining to financial knowledge is shown in Table 2. Data show that only 23.8% managed to answer 10 or more questions correctly. None of them have answered all the 19 questions correctly, and almost a quarter could only answer less than five items correctly. Taking the cut-off points of 10, a little more than three quarters of the students can be said to have low financial literacy level. Financial literacy varies widely across various sub-groups. Male students had a mean score of 7.41 compared with 6.73 for female students. This finding is consistent with that of Chen and Volpe (1998, 2002), Volpe et al. (1996), Lusardi and Mitchell (2007, 2008), Worthington (2006), Ibrahim et al. (2009) and Shaari et al. (2013). Chen and Volpe (2002) postulated that the higher financial literacy among the males could be attributed to the fact that males tended to perform better in mathematics. However, this assumption requires further studies.

Table 2: Summary of financial knowledge of sample

Number of questions correctly answered	**Frequency**	**Percentage**
0	13	2.3
1	18	3.2
2	24	4.3
3	29	5.2
4	51	9.2
5	67	12.1
6	59	10.6
7	64	11.5
8	50	9.0
9	48	8.6
10	42	7.6
11	36	6.5
12	22	4.0
13	14	2.5
14	10	1.8
15	4	0.7
16	3	0.5
17	0	0.0
18	1	0.2
19	0	0.0

Among the main ethnic groups, Chinese students have the highest financial knowledge with a mean score of 7.47 (out of a maximum score of 10), but there is little or practically no difference between the Malays (5.87) and Indians (5.90). The higher score among the Chinese is probably reflective of the predominance of the Chinese community in business and financial sectors. The small sample size of the Indians makes the estimation less accurate or reliable.

Second and third year students tended to have much higher knowledge compared with their juniors and those in the foundation and diploma level. This result is to be expected as seniors have accumulated more knowledge over the years. The small number of respondents from Year 3 may have affected the comparison with Year 2 students.

Business/Economics/Finance/Accounting students have the highest score with a mean of 7.63. This finding is expected because they are more exposed to financial terms in their course work. This finding is similar to those of Mandell (1997), Chen and Volpe (1998), McKenzie (2009), and Shaari et al. (2013).

Table 3: Mean, standard deviation and 95% confidence interval of financial knowledge by selected variables

	Mean	Standard deviation	95% confidence interval Lower bound	Upper bound
Gender				
Male	7.406	3.737		
Female	6.727	3.248		
Ethnicity				
Malay	5.869	2.936	5.306	6.432
Chinese	7.465	3.487	7.114	7.817
Indian	5.897	3.067	4.903	6.891
Others	5.482	3.169	4.277	6.688
Year of study				
Foundation/ Dip/Adv.Dip	6.615	3.260	6.169	7.061
1st Year of Degree	5.419	2.727	4.910	5.929
2nd Year of Degree	8.184	3.664	7.653	8.710
3rd Year of Degree	7.104	2.926	6.254	7.953
Field of Study				
Business/Econs/ Fin/Acc	7.625	3.406	7.273	7.977
Science	6.372	3.376	5.423	7.322
Art and Social Science	5.000	2.874	4.429	5.570
Interior Design	6.100	2.881	4.751	7.448
Others	6.619	2.889	5.303	7.934

4.3 Financial Attitude

While it may be hypothesised that better financial knowledge will result in improved financial attitude, the survey results do not support this hypothesis. Table 4 shows the mean scores for attitude is higher for females than for males, albeit not statistically significant, although male students have better financial knowledge than female students. This finding supports the view that women are generally more prudent in managing financial matters (Nelson, 2012).

Financial attitudes differ across ethnic groups, year and field of study, but such differences do not necessarily follow the same ranking for financial knowledge. Malay students, despite having the lowest knowledge score, have the highest financial attitude mean score of 3.94, followed by Indian students with a mean score of 3.82 and Chinese students with a mean score of 3.78. The differences in financial attitude are small which could be due to differences in the financial background of the different ethnic groups.

However, ranking of financial attitude by year and field of study are consistent with financial knowledge. Senior students who have better financial knowledge also have better financial attitude and so do the Business/Economics/Finance/Accounting students.

Table 4: Mean, standard deviation and 95% confidence interval of financial attitude by selected variables

	Mean	Standard deviation	95% confidence interval Lower bound	Upper bound
Gender				
Male	3.759	0.461		
Female	3.830	0.389		
Ethnicity				
Malay	3.939	0.364	3.869	4.009
Chinese	3.778	0.399	3.738	3.818
Indian	3.823	0.514	3.656	3.990
Others	3.681	0.527	3.480	3.881
Year of study				
Foundation/ Dip/Adv.Dip	3.720	0.404	3.665	3.776
1st Year of Degree	3.787	0.440	3.705	3.869
2nd Year of Degree	3.901	0.405	3.843	3.959
3rd Year of Degree	3.865	0.370	3.758	3.973
Field of Study				
Business/Econs/ Fin/Acc	3.843	0.407	3.801	3.885
Science	3.579	0.476	3.445	3.713
Art and Social Science	3.826	0.369	3.753	3.900
Interior Design	3.768	0.439	3.563	3.974
Others	3.690	0.394	3.511	3.869

4.4 Financial Behaviour

The final link in the chain linking knowledge to practice is financial behaviour. Table 5 shows male and female students have rather similar financial behaviour. However, there are significant differences in financial behaviour across the ethnic groups, with Malay students having the highest mean score of 3.55 followed by Chinese students with 3.45 and Indian students with 3.39. Senior students have higher mean score in financial behaviour compared with Year 1 students and those in the Foundation or Diploma course. Business/Economics/Finance/Accountancy students have a higher mean score of 3.49. The higher score for Interior Design students should be interpreted with caution due to their small sample size.

To what extent are knowledge, attitude and behaviour correlated? We have shown that groups with good financial knowledge do not necessarily have better financial attitude or behaviour (Table 6). Financial knowledge has a rather low correlation with financial attitude (r=0.164) and financial behaviour (r=0.101), but financial attitude has a rather high correlation with financial behaviour (r=0.610). These findings are consistent with studies looking at other countries (Chen & Volpe, 1998; Hilgerth et al., 2003; Cude et al., 2006; Mandell & Klein, 2009; Jorgensen, 2007).

Table 5: Mean, standard deviation and 95% confidence interval of financial behaviour by selected variables

	Mean	Standard deviation	95% confidence interval Lower bound	Upper bound
Gender				
Male	3.482	0.527		
Female	3.443	0.500		
Ethnicity				
Malay	3.554	0.471	3.467	3.645
Chinese	3.450	0.481	3.401	3.498
Indi*an*	3.389	0.593	3.197	3.582
Others	3.255	0.764	2.964	3.546
Year of study				
Foundation Dip/Adv.Dip	3.348	0.519	3.277	3.419
1st Year of Degree	3.425	0.573	3.317	3.532
2nd Year of Degree	3.583	0.450	3.518	3.648
3rd Year of Degree	3.495	0.410	3.376	3.615
Field of Study				
Business/Econs/ Fin/Acc	3.491	0.480	3.441	3.541
Science	3.237	0.610	3.066	3.409
Art and Social Science	3.479	0.520	3.376	3.582

Table 5: (Continued)

Interior Design	3.516	0.559	3.254	3.778
Others	3.196	0.452	2.990	3.402

Table 6: Pearson's correlation coefficients between financial knowledge, attitude and behaviour

	Financial Knowledge	**Financial Attitude**	**Financial Behaviour**
Financial Knowledge	0.7		
Financial Attitude	0.164**	0.8	
Financial Behaviour	0.101*	0.610**	0.7

Note: **, * indicates correlation is significant at the 0.01 and 0.05 level respectively.
Scale reliabilities are shown on the main diagonal.
Source: Survey findings and computations.

4.5 Financial Socialisation Factors

What are the underlying factors that impact on financial literacy, financial attitude and financial behaviour? Apart from formal and experiential learning, parents, friends, financial planners, and the media (e.g. print and internet) also have an important influence on students' financial literacy. In this survey, respondents were asked to classify each of these factors as having high or low influence, according to their own perception. Based on their answers, respondents were divided into two groups - those classifying the level of influence of each factor as high or low. The two groups were tested as independent-samples using the t-test to assess whether the level of influence was significant on the three financial parameters for each of the financial socialisation factors.

Table 7 shows that all financial socialisation factors are associated with financial attitudes and behaviour at 95% confidence level. Respondents who rated the financial socialisation factors as high tended to have higher scores for financial attitude and financial behaviour. However, this is not the case with financial knowledge, as school/University attendance and working experience were the only two factors that have significant positive effects on financial knowledge.

Respondents were asked to identify factors that can help to improve their financial literacy. Parents and life experience are rated the highest as sources of financial literacy (Table 8). Contrary to expectations, financial education was not an influential factor among college and university students.

Table 7: Financial socialization factors and effects on financial knowledge, attitude and behaviour

Financial Socialization	**Financial Characteristic**	**Group Mean**		**Group Std. Dev.**		***t***	
		Low Influ.	**High Influ.**	**Low Influ.**	**High Influ.**	**statistic**	***p*-value**
Parents	Financial knowledge	6.601	7.086	3.246	3.488	-1.523	0.128
	Financial Attitude	3.691	3.855	0.427	0.399	-4.315	0.000
	Financial Behaviour	3.346	3.501	0.525	0.495	-3.292	0.001
Friends	Financial knowledge	6.753	7.257	3.329	3.558	-1.683	0.093
	Financial Attitude	3.772	3.865	0.421	0.397	-2.590	0.010
	Financial Behaviour	3.390	3.563	0.524	0.464	-3.954	0.000
Schools/ University	Financial knowledge	6.661	7.309	3.404	3.420	-2.221	0.027
	Financial Attitude	3.748	3.884	0.416	0.400	-3.877	0.000
	Financial Behaviour	3.369	3.566	0.520	0.472	-4.608	0.000
Financial Planner	Financial knowledge	6.802	7.324	3.352	3.589	-1.602	0.110
	Financial Attitude	3.770	3.906	0.411	0.407	-3.466	0.001
	Financial Behaviour	3.376	3.666	0.498	0.478	-6.165	0.000
Media	Financial knowledge	6.910	7.017	3.326	3.642	-0.341	0.734
	Financial Attitude	3.739	3.955	0.386	0.435	-5.879	0.000
	Financial Behaviour	3.374	3.631	0.503	0.477	-5.666	0.000
Internet	Financial knowledge	6.755	7.354	3.264	3.723	-1.920	0.055
	Financial Attitude	3.767	3.895	0.383	0.464	-3.428	0.001
	Financial Behaviour	3.390	3.597	0.484	0.532	-4.513	0.000
Books	Financial knowledge	6.885	7.066	3.287	3.696	-0.584	0.559
	Financial Attitude	3.756	3.914	0.386	0.450	-4.428	0.000
	Financial Behaviour	3.392	3.586	0.491	0.521	-4.284	0.000
Working Experience	Financial knowledge	6.198	7.174	3.141	3.477	-2.871	0.004
	Financial Attitude	3.620	3.865	0.442	0.388	-6.111	0.000
	Financial Behaviour	3.272	3.512	0.485	0.503	-4.800	0.000

Table 8: Financial socialisation factors that can improve financial literacy

Financial Socialisation Factor	Frequency	Percentage
Parents	206	37.1
Life Experience	155	27.9
Financial Planner/Advisor/ Broker/Bank Officer	67	12.1
School/College/University	56	10.1
Internet/Specialized Website	24	4.3
Friends and Acquaintances	23	4.1
Books	14	2.5
Media/Newspaper/Magazines/TV	10	1.8
Total	555	100.0

Source: Survey findings.

5. Conclusion

The survey results revealed low financial literacy among college and university students in Malaysia, and this corroborates with findings from previous studies by Danes and Hira (1987), Chen and Volpe (1998), and Ibrahim et al. (2009). The composite index only provides an overall measure of the level of financial knowledge. However, for effective intervention, it is necessary to focus on specific aspects that students are lacking in knowledge.

The higher financial knowledge among male students compared with females in this sample also confirms the findings of a number of previous studies. Generally, males are more willing than females to take risks (Nelson, 2012; Croson & Gneezy, 2009; Arano, Parker, & Terry, 2010; Beckmann & Menkhoff, 2008; Dohmen, Falk, Sunde, Schupp & Wagner, 2009). Hence, it is to be expected that males will be more likely than females to use different financial services resulting in improved knowledge. Besides, men generally perform better than women in mathematics, causing them to acquire more financial knowledge than female students (Chen & Volpe, 1998). Moreover, males are expected to be the household head and breadwinner, and this probably motivates them to learn more about financial matters (Hsu, 2011; Salganicoff, Ranji & Wny, 2005).

Our findings indicate that financial knowledge does not necessarily lead to better financial attitude. The survey results showed that female students had lower scores in financial knowledge compared with males, but the former scored higher in financial attitude. Interestingly, all the financial socialisation factors comprising parents, friends, schools/university, financial planner, media, internet, books and working experience have significant effects on financial attitude and behaviour. Each of these factors can be considered in formulating programmes and strategies to improve financial literacy among the young.

The significance of the above findings taken together lies in the observed disconnect between knowledge and attitude, and the impact of attitude on performance. This could be partly attributed to the low level of and lack of variability in financial knowledge. An improved measurement of the financial knowledge is needed to bring out the differences across the sub-groups. Students achieve their financial literacy not from the classroom but from their family and work/life environments. Parents who are not financially literate are unable to impart relevant knowledge to their children.

If initiatives are to be made to improve financial literacy, they must be directed at the family and the workplace. While far fewer examples of these initiatives exist, there is an important role for both private and public sectors. For the former, workplace financial education has been found to have a positive impact on employees' financial behaviour (Gale & Levine, 2011; Bernheim & Garrett, 2003). For the latter, efforts to strengthen specific initiatives to encourage savings would contribute to financial literacy. While putting emphasis on experiential learning, schools and universities must also play a role in imparting financial knowledge and fostering desirable financial attitude to prepare young people even before they enter the workplace. The various aspects of financial knowledge and attitude should be incorporated into the school curriculum.

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