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Investigating Financial Literacy Knowledge, Attitude, and Practice of Malaysian Secondary School Students

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Abstract

Youths are more likely to achieve financial independence and prevent intergenerational poverty with adequate knowledge about finance management. Adequate financial literacy is pertinent to enhance financial knowledge, behaviours, and overall well-being in managing finance from a young. This study aims to assess the financial knowledge, attitude, and practice among 150 high school urban students aged 13 to 17 years. The participants (N=150) completed an online survey questionnaire. The financial knowledge was assessed with 20 knowledge-based questions and 15 attitude and practice-based questions respectively using the Likert scale. Data was analysed using the chi-square test and median value. Results show a significant association between financial knowledge and financial literacy. The higher secondary students had higher scores in the three variables due to the exposure to financial literacy subjects, parental support, and peer influence in financial practices. Financial literacy was also associated with the age of the study population. The study shows that there is a need to implement a formalised curriculum to increase financial literacy among secondary students to have a more robust and positive implication on the students' financial practices for the future. The study is significant in creating awareness and empowering the students with the necessary financial literacy skills.

Keywords: financial literacy, secondary, students, Malaysia, KAP study

1. Introduction

The general concept of financial literacy relates to a person's ability to manage money. Remund (2010) classified financial literacy into four categories, mainly the knowledge of financial concepts, the ability to manage personal finances, skills in making financial decisions, and confidence in future financial planning. Therefore, financial literacy is a wide conceptualisation of an individual's financial knowledge, attitudes, practices, and overall well-being. Youths who acquire financial literacy are perceived to understand the value of managing money (Lusardi, 2019) and to make informed decisions on financial management in the future (Clement et al., 2023); besides leading a financially secure lifestyle (Riitsalu et al., 2023). Thus, studies suggest that financial literacy to be embedded into the curriculum to enable students to understand the concept of money and how it is related to their daily lives (Riitsalu et al., 2023). Some countries have integrated financial literacy into the school curriculum such, as Ontario, Canada, the United States, and the United Kingdom, and others. (Chartered Professionals Accountants Canada Report, 2020-2021; Remund, 2010). Students are disseminated on currency, the concept of interest rates, tax taxes, and balancing budgets. In some countries such as Wales, for example, financial education is included in both primary and secondary school curricula as part of Mathematical Development, Personal and Social Education. By the end of primary education, students acquire knowledge of money calculations, organizing and tracking savings, evaluating income and expenses, and examining value for money. The bigger knowledge component of currencies and exchange rates as well as managing a household budget is disseminated at a higher level of their secondary education.

In the Malaysian context, however, financial literacy is less integrated in the curriculum although preliminary implementations are in place in several schools. This is a concern as studies have shown that the knowledge of financial literacy should be nurtured from a young age as recommended in the Malaysia National Strategy for Financial Literacy 2019-2023 report. Nevertheless, the financial literacy curriculum in Malaysia was only incorporated in subjects like Economics and Accounts and taught in Form 4, mainly for the Arts stream students, and was implemented in several primary schools as a pilot project. Failure to acquire financial literacy at a

young age is alarming as studies show that acquiring financial literacy is pertinent for making informed financial decisions.

The youth population in Malaysia is recorded as those aged 15 to 40 (Malaysia Ministry of Human Resources, 2013). Statistics show that the Malaysian population is expected to be 32.7 million people, (Department of Statistics Malaysia, 2021). Additionally, the total Malaysian population between the ages of 15 to 40 is expected to grow to 46.5% or 15.1 million (Department of Statistics Malaysia, 2021). This means that nearly half of Malaysian consumers are youth and they comprise a significant group in both the micro and macroeconomic sectors. The Financial Education Network survey that was carried out in 2018, indicated that one in three Malaysians rate themselves to be of low financial knowledge. The situation did not progress much despite the warning signs as the former Finance Minister had also stated that 47% of Malaysian youths are in debt on their credit and 40% of millennials are spending beyond their means (Malay Mail, 2021). Similarly, the report by RinggitPlus survey on Malaysians' financial literacy disclosed nearly 29 % of youth admit to realizing the significance of emergency savings since movement control order only. The survey results also showed that 60% of the youth noted that they are unable to sustain for more than three months while nearly 47% have reported having no savings or spending exceeding their income level. It was also reported that approximately half of the respondents noted that they are yet to begin saving for their retirement. The lack of financial education is a matter of concern for the Malaysian youth.

Given this background, this study is therefore, aimed to investigate the knowledge, attitude, and practice of financial literacy among secondary school students in Klang Valley. It is hypothesized that appropriate financial education helps to assist secondary school students in making smart financial decisions for their future. Furthermore, financial literacy is important as it helps the students to understand the value of money, debt management and prevention, credit score, and investment to manage their money and maintain healthy spending and budgeting habits. Specifically, the study aims to identify the knowledge, attitude, and practice of secondary school students in the Klang Valley to provide preliminary evidence-based data from a cohort of the school student Population that generally reflect the general population of the school students in the Klang Valley.

2. Method

2.1 Defining Financial Literacy

Financial literacy, according to (Huston, 2009), is a measure of an individual's ability to comprehend and use financial information. Financial literacy necessitates not only a knowledge component but also a dimension of application, which demands a person to have the capacity and confidence to apply their financial knowledge in making financial decisions. However, the definition of financial literacy was further developed in later years when OEDC (2017), delineated the financial literacy concept as "knowledge and understanding of financial concepts and risks; skills, motivation, and confidence to apply that knowledge and understanding to make effective decisions in a variety of financial contexts; to improve individuals' and society's financial well-being; and to enable participation in economic life". The operationalisation employed in recent OECD surveys reflects the reality that equating financial literacy with financial knowledge is insufficient (OECD, 2016). Financial literacy is measured in these studies, not just through questions about financial knowledge, but also through questions about financial behavior and attitudes. This helps researchers to see if a participant has sufficient comprehension of financial concepts and whether such understanding leads to suitable application as a result. From the viewpoint of various financial components, Nababan & Sadalia, (2012) denote that the components covered include basic personal funds, managing money, credit and debt management, saving and investing, and risk management. Additionally, basic personal finance includes a person's role in the financial system, such as simple and compound interest, inflation, opportunity cost, time value, and asset liquidity.

Several studies have been conducted in the context of financial literacy. Venkataraman & Venkatesan, (2018) investigated the factors influencing financial literacy among Bangalore's salaried working-class group. Demographic variables, behavioral factors, financial attitudes, and influential factors were the most dominant factors in the literature. The study found that, of the four determining factors, financial knowledgewas the most important factor in determining financial literacy. Financial knowledge had a 0.27 predictability coefficient, while influence had a 0.75 predictability coefficient. The findings from the paper can be used to help employed people improve their financial literacy. The study underlines the importance of raising knowledge about successful financial planning by utilizing key factors. Another study by Kadoya, Khan, & Rabbani, (2017), examined if financial literacy affects stock market participation in Japan. Using data from Osaka University’s Preference Parameter study, they provide evidence that financial literacy has a positive influence on stock market participation. However, after limiting participants' demographic, socioeconomic, and psychological backgrounds

in all requirements, the findings demonstrate strong evidence of the importance of financial literacy on stock market participation. The study also reports that low stock market participation in Japan is due to a lack of financial literacy. The same holds for a lack of investment in high-risk assets. Financial literacy is also said to be a barrier to wealth-maximizing investment, which ultimately harms national economic success. As a result, the study reveals that good financial education, financial orientation in the job, and social contact can all help to increase financial literacy, and subsequently lead to better risky investment. Maarten, Van Rooij, Lusardi, & Alessie, (2012) study, likewise, differentiates the impact of financial abilities and examines whether financial literacy influences wealth accumulation. The study found and identified significant channels that could play a role in the relationship between wealth accumulation and financial literacy: financially literate individuals seem to be more likely to invest in stocks and plan for retirement. This study adds to the findings of earlier studies by Bernheim et al. (2001) and Bernheim & Garrett, (2003), who discovered that financial education (whether in high school or through workplace seminars) has a positive impact on investment in the United States. The research was unable to determine if this effect was attributed to a personal desire to save, the availability of information and the availability of commitment devices, an overall improvement in financial literacy and the reduction of financial mistakes, or peer effects. However, since this study reveals that financial literacy is positively associated with wealth accumulation, we cannot generalise that the effects of financial education programs are due to an increase in financial literacy.

Another study by Brown & Graf (2013) on financial literacy focused on household investment and household debt in Switzerland. A survey of 1500 Swiss households was conducted to record the level of financial literacy and to investigate the relationship between financial literacy and household investment and borrowing. In comparison to other OECD countries, they observed that financial literacy in Switzerland is comparativelyhigher, with half of respondents correctly answering three questions about basic financial concepts. Financial literacy is substantially lower in low-income and immigrant households, as well as among women, indicating that general financial literacy projects inSwitzerland should target these populations. Young respondents are not inherently less financially savvy, thus campaigns aimed at them should concentrate on specific financial concepts, such as inflation. As a result, financial literacy is highly linked to financial market engagement, voluntary retirement savings, and mortgage borrowing, according to this study. While reverse causality appears to play a role in the relationship between financial literacy and investment behavior, this does not appear to be the case for mortgage borrowing. These data show that financial literacy initiatives may have a limited impact on investment behaviour.

2.2 Financial Literacy among Secondary School Students

The impact of schooling on financial literacy has yielded conflicting outcomes in research. According to Lusardi & Wallace (2016), financial literacy in any form is helpful over time. Several empirical studies have been conducted to highlight financial literacy among secondary school students, even in developed countries. Statistics from the 2012 National Financial Capability Study (NFCS) indicate that young Americans' financial literacy remains low. While 85% of 18-34-year-olds were competent and confident in managing day-to-day financial matters, only 38% indicated basic economic and financial literacy (Scheresberg, Lusardi & Yakoboski, 2014). Amidst their high level of knowledge, even college-educated young adults are frequently unprepared for the financial issues they face. They are more likely to be in debt in the short and long term, despite having more assets than other young adults (Scheresberg, Lusardi & Yakoboski, 2014). These findings highlight the challenges that young Americans face, as well as the benefits of early financial education.

A study by Nguyen (2013) on the effects of financial literacy programs and the importance of developmental assets in Northwest Arkansas demonstrated that the young adult class money management skills improved students' post-test results, indicating that the class was successful in enhancing students' financial situation. This research also highlighted the need for more financial literacy programs to be implemented in Arkansas. The findings indicated a correlation between students' social support and their perceived financial knowledge ($p < .05$). To boost kids' social capital, communities should encourage community asset-building activities. Students realized the value of financial understanding as they live in an increasingly changing economy because of their ability to form positive relationships with others and the community. Later, another study by Lusardi & Lopes (2016) used data from the 2012 Program for International Student Assessment to examine the determinants of financial literacy among 15-year-old high. school students in the United States (PISA). The PISA survey was completed by 806 students from 158 high schools across the United States. Although the average financial literacy performance in the United States does not differ substantially from the OECD average, there seem to be significant differences across the country (only one in ten students score at the highest level of financial literacy). The most significant discovery is that socioeconomic factors are the most powerful predictors of financial literacy. Students born into one standard deviation richer households than the average family (top 84%

of the socioeconomic index) have a 35.5-point higher financial literacy score than students born into the average household. Furthermore, it has been reported that every 10% increase in the number of math teachers in schools is associated with an increase of 8 points in financial literacy. Overall, these findings indicate that students from more advantaged families are more likely to perform well on financial literacy assessments. Students who have access to information at home through books and computers perform better. Unfortunately, inequality in terms of access to information and differences in family background can have an early impact on children's financial understanding, which is quickly becoming an essential ability for success in today's society.

The role of education programs was also studied to gauge the impact on school children. For example, Amagir, Groot, Brink, & Wilschut (2018) evaluated the effectiveness of financial- literacy education programs and initiatives for children and adolescents. School-based financial curriculums have shown to enhance the financial knowledge and attitudes of children and adolescents. Both studies that evaluate the intention to engage in good behavior and research that rely on self-reported behavior produce positive results. The evidence, nevertheless, is limited since assessing actual behavior in children and adolescents is methodologically challenging. Longitudinal research methods on the long-term effects of various financial education programs on financial knowledge, behavior, and attitudes are also required. Financial education programs in high schools and colleges, according to the findings, may also be impactful in closing the gender gap. These findings support the notion that financial literacy instruction should start in elementary school and continue through secondary school and college. To ensure continuous learning, financial literacy education should be required as part of the school curriculum.

2.3 Conceptualising Knowledge, Attitude, and Practice of Financial Literacy

Financial knowledge has sparked the interest of economists. Qian & Acs (2013) highlighted financial knowledge as a source of entrepreneurial potential and proposed that entrepreneurs play a key role in commercializing new information acquired in large incumbent firms in their knowledge of the theory of entrepreneurship. Financial knowledge is described as the ability to read, analyse, manage, and communicate personal financial circumstances that affect one's financial well-being. As a result, the terms financial knowledge and financial literacy are sometimes used interchangeably; nonetheless, literacy refers to the possession of basic information or competence, and the ability to establish financial security through this knowledge (Mccormick, 2009). Despite this, various studies have shown that the majority of users lack the necessary financial knowledge to make critical financial decisions in their best interests. People with insufficient financial literacy are more likely to have debt problems, according to a study (Lusardi & Tufano, 2015). As a result, a financially illiterate person is less likely to create wealth and manage it successfully. Several studies have been conducted in the context of financial knowledge. First, (Andreou & Philip, 2018) conducted a study to assess Cypriot students' understanding of basic financial concepts such as simple interest and compounding calculations, inflation and its effects, risk-return associations, and the advantages of risk diversification. According to the results, 6.24 % correctly answered all questions, with only 36.9 % having a high level of financial knowledge competency. Boys from business degree courses, students from public colleges, students who centered on STEM subjects in high school, students whose families have a large income, and students with strong math skills, information technology, and general knowledge often seem to be more financially knowledgeable, according to the findings. As a result, students' awareness of credit card debt management and the avoidance of fraudulent investment opportunities has been related to financial knowledge.

Likewise, financial attitude is a personal tendency toward financial matters. What matters is the ability to plan ahead of time and maintain a savings account. According to Bhushan & Medury, (2014), the emphasis should be on instilling positive financial attitudes in the country's citizens to improve financial literacy among future generations. Only then financial education programs can deliver on their promises. Studies show that a person's attitude toward money could influence their financial literacy. When it comes to fulfilling financial literacy and widening their financial knowledge, students' attitudes toward money and finance can affect their behavior. Their financial decision-making abilities, however, would suffer as a result of their pessimistic outlook (Shim, Xiao, Barber, & Lyons, 2009; Sohn, Joo, Grable, Lee, & Kim, 2012). Besides, other papers that have been studied are based on financial attitudes. (Arifin, 2018), investigates the impact of financial attitude, financial behavior, and financial capability on financial satisfaction. According to the findings, financial attitude has a significant impact on financial satisfaction. This is because more than 60% of the respondents in this sample hold a bachelor's degree, implying that the better an individual's financial management skills are, the higher their financial satisfaction. Indeed, the findings show that financial behavior and capability have a beneficial impact on financial satisfaction. The findings demonstrate that respondents had healthy financial habits, such as keeping track of their spending, making goals for the future, and saving money. Respondents also have strong financial

capabilities,as seen by an individual's capacity to manage his cash for daily necessities. Higher-level studies as in Talwar, Talwar, Kaur, Tripathy & Dhir (2021) emphasize the influence of financial attitude on the financial behavior of retail investors. This study investigates the impact of six financial attitude dimensions, namely financial anxiety, optimism, financial security, deliberative thinking, interestin financial issues, and the need for precautionary savings, on retail investors' trading activity during the pandemic. The data from 404 respondents was analyzed using the Artificial Neural Network (ANN) approach. According to the data, retail traders' trading activity was most impacted by their interest in financial matters, accompanied by deliberative thoughts and the need for precautionary savings, which had nearly comparable effects. Financial security, optimism, and financial concern came in second and third, respectively. The correlations indicated that allof the influences were positive. As a result, the study provides several intriguing theoretical and practice-based findings.

Understanding financial practices in children has become increasingly significant. Credit cards and housing loans, for example, rely heavily on assets and competence. Nonetheless, many financial practices arise and have long-term impacts on earning capacity, wealth accumulation, and upward mobility, such as mutual funds and student loans (Leung, 2011). Implementing financial planning, which includes budgeting and cash flow, credit management, risk management, investment, estate planning, and retirement planning, are examples of financial practices. Money management is an aspect of financial practices that necessitates basic personal finance knowledge, abilities, and experience to make sensible financial decisions daily (Sabri & Lee, 2017; Kapoor et al., 2004). According to the findings of (Sherraden et al, 2011), young people's ability to interpret and manage financial decisions has piqued their interest in financial practices and the effectiveness of financial education. According to the observations, survey participants outperformed a group of students from the sameschool on a financial literacy test, regardless of family background, education, and income. Thus, the findings suggested that when young children have access to financial education and participate in meaningful financial services, they have better financial practices. Abdullah & Azam (2016), examined the role of financial practice in mediating the relationship between financial knowledge and small business success in Malaysia. The findings have some implications for Malaysian small businesses. This systematic examination of structural linkages between the construct aids in a better understanding of the nature of small business finance practice and how it might contribute to business success. The research has specifically identified a few important aspects of small business performance in Malaysia. This study has made a significant contribution to the empirical evidence of Financial Knowledge (FK), Financial Practice (FP), and Business Success (BS) of small businesses in Malaysia via empirical examination of structural linkages. As a result, this research presents a viable and reliable instrument for assessing the antecedents of financial practices for small business performance in Malaysia.

3. Method and Instrumentation

The study was carried out via electronic mediated questionnaires, shared mainly via teachers of four schools. A total of 150 respondents from a secondary school in the district of Seri Kembangan were selected to participate in the survey. Simple random sampling method was used to choose the 69 female and 81 male respondents for the survey. The respondents aged 13 to 15 (lower secondary) and 16 to 17 (upper secondary). The respondents represent the category of poor, average and good based on the school examanation There were three sections in the questionnaire; mainly demographic questions, independent and dependent aspects, and a section that included the participants' recommendations and measures for financial literacy empowerment among school students. A five-point Likert-type scale, true and false answer choices, and multiple-choice questions were also employed to assess the diverse aspects. The financial knowledge was assessed on 20 questions on savings, budgeting, money value, inflation, debt management, investment, and business. The multiple-choice questions (MCQ) with a score of 1 - 10 were provided as having a low level of financial knowledge, while those with a score of 11 – 20 were classified as having a high level of financial knowledge. A total of 15 questions or statements about financial attitudes towards money, business, risk, savings and spending, needs, and future planning were graded on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Participants with scores ranging from 15 to 45 are classified as having a low level of financial attitude, while those with scores ranging from 46 to 75 are classified as having a high level of financial attitude. The financial practices of students were examined using five-point Likert-scale questions ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Questions regarding money management, financial discussions with family, and purchasing were among the 15 financial practices-related statements asked. Participants with scores ranging from 15 to 45 are classified as having a low level of financial practice, while those with scores ranging from 46 to 75 are classified as having a high level of financialpractice. The variables consist of the socio-demographic background of the respondents such as gender and education level. In the context of the education level, participants were probed if they were equipped with finance or business, and if they were learning Economics

subject in schools.This is to analyze the background of the students who participated in the study.

4. Results

Table 1 shows of 150 respondents who participated in this study 54% were females and 46% were males. The respondents were grouped into five categories based on their educational level as shown in the table below:

Table 1. Respondent Distribution for Study

	Participant No.	Percentage
Form 1 (aged 13)	22	(14.70%)
Form 2 (aged 14)	21	(14.00%),
Form 3 (aged 15)	26	(17.30%)
Form 4 (aged 16)	32	(21.30%)
Form 5 (aged 17)	49	(32.70%).
Total	150	(100%)

The demographic profile also shows that, of the 69 respondents consist of Form 1 to Form 3 participants, 43 participants (43.40%) are equipped or exposed to knowledge regarding finance or business however 56 participants (56.60%) of the 69 are not equipped or exposed to knowledge regarding finance or business. The demographic profile indicates that out of 81 respondents from Form 4 to Form 5, 30 participants (32.30%) are currently learning Business Studies /Economics subject in school while 63 participants (67.70%) are not learning the subjects in school. Questions 3 and 4 under the demographic profile were to understand the exposure level of respondents towards the knowledge or concepts of financial literacy and how the understanding helps them in answering the survey. It is assumed that being equipped with knowledge regarding finance/business or learning Business Studies /Economics subjects in school leads to a higher level of financial literacy among participants. This is because they will have a more comprehensive understanding of the topic and will be able to make sound financial decisions in the future. The demographic results are also graphically shown below in Figures 1 to 2.

Table 2. Demographic Profile of Respondents

Profiles	Description	Frequency (N)	Percentage (%)
Gender	Male	69	46%
	Female	81	54%
Education Level	Form 1	22	14.70%
	Form 2	21	14.00%
	Form 3	26	17.30%
	Form 4	32	21.30%
	Form 5	49	32.70%
Are you equipped/exposed toknowledge regarding finance or business? (Form 1 - Form 3)	Yes	43	43.40%
	No	56	56.50%
Are you currently learning Business /Economics subject in school? (Form 4 - Form 5)	Yes	30	32.30%
	No	**63**	**67.70%**

4.1 Financial Knowledge

***H*1**: Finacial knowledge among the secondary school students determines financial literacy

H*0**: ***Financial knowledge among the secondary school students ***does not determine financial literacy***

Table 3 indicates the cross-tabulation results of the items' total score of financial knowledge by education level. The table below comprises the total scores obtained by respondents by answered 20 survey questions under the analysis of financial knowledge. The respondents are grouped into two of either having low or high financial knowledge which determines the level of financial literacy. High financial knowledge ranges from having a scoreof 11 – 20 and the range of having a low financial knowledge is from 1 – 10. The percentage of respondents having low financial knowledge from Form 1 education level is 28% (14 participants) followed by Form 2 participants, 32% (16 participants); Form 3 participants at 16% (8 participants): Form 4 participants 20% (10 participants) and Form 5 participants 4% (2 participants). The percentage of respondents having high financial knowledge from Form 1 is 8%; followed by Form 2 participants at 5%. The percentage of Form 3, Form 4, and Form 5 participants exhibited a high financial knowledge ranging from 18, 22%, and 47% respectively. Therefore, from the 150 respondents, 100 respondents generally recorded a high financial knowledge that reflects a higher level of financial literacy. A chi–square test was also used to examine the effects of financial knowledge on financial literacy. The p-value obtained is 0.000 as shown in Table 4. The significant level of 0.05, indicates that there are

significant association between financial knowledge and financial literacy. Thus, the null hypothesis (H_0) is rejected

Table 3. Total Score of Financial Knowledge * Education Level

Education Level								
			Form 1	**Form 2**	**Form 3**	**Form 4**	**Form 5**	Total
Total Score of Financial Knowledge	**Low**	**Count**	14	16	8	10	2	**50**
		(%)	28.0%	32.0%	16.0%	20.0%	4.0%	**100%**
	High	**Count**	8	5	18	22	47	**100**
		(%)	8.0%	5.0%	18.0%	22.0%	47.0%	**100%**
Total		**Count**	22	21	26	32	49	**150**
		(%)	**14.7%**	**14.0%**	**17.3%**	**21.3%**	**32.7%**	**100%**

Table 4. Chi-Square Test of Financial Knowledge Score

Crosstabulation

	Value	**df**	**Asymptotic Significance (2- sided)**
Pearson Chi-Square	45.455[a]	4	**0.000**
Likelihood Ratio	50.502	4	**0.000**
Linear-by-Linear Association	38.637	1	**0.000**
N of Valid Cases	**150**		

4.2 Financial Attitude

$\boldsymbol{H_1}$: ***Financial attitude*** among the secondary school students determines financial literacy

$\boldsymbol{H_0}$: ***Financial attitude*** among the secondary school students does not determine financial literacy

Table 5 below indicates the cross-tabulation results of the items' total score of financial attitudes by education level. The range of the score under this category would be from 15 - 75. Respondents are grouped into two; either having low or high financial attitudes determines the level of financial literacy. High financial knowledge ranges from a scoreof 46 – 75 and the range of having a low financial knowledge is from 15 – 45. The percentage of respondents having low financial knowledge is from Form 1 education level, that is 15.7%; followed by Form 2 participants at 17.6%; Form 3 participants at 17.6%; Form 4 participants at 15.7% and Form 5 participants with 33.3% range. The percentage of respondents having high financial attitudes is derived from the Form 1 respondents with 14.1% (14 participants), followed by Form 2 participants at 12.1% (12 participants). The percentage of Form 3, form 4, and Form 5 participants recorded a high financial attitude at 17.2% (17 participants), 24.2% (24 participants), and 32.3% (32 participants) respectively. Therefore, 99 respondents with a high financial attitude reflect that they are financially more literate.

A chi–square test was used to examine the effects of financial attitude on financial literacy. The p-value obtained is 0.743 as shown in Table 6. Since the p-value of financialattitude is higher than the significant level of 0.05, the result indicates that there is no significant association between financial attitude and financial literacy. Thus, the null hypothesis (H_0) is not rejected.

Table 5. Total Score of Financial Attitude Education Level

Education Level								
			Form 1	**Form 2**	**Form 3**	**Form 4**	**Form 5**	**Total**
Total Score of Financial Attitude	**Low**	**Count**	8	9	9	8	17	**51**
		(%)	15.7	17.6%	17.6%	15.7%	33.3%	**100%**
	High	**Count**	14	12	17	24	32	**99**
		(%)	14.1%	12.1%	17.2%	24.2%	32.2%	**100%**
Total		**Count**	22	21	26	32	49	**150**
		(%)	**14.7%**	**14.0%**	**17.3%**	**21.3%**	**32.7%**	**100%**

Table 6. Chi-Square Test of Financial Attitude Score

Crosstabulation

	Value	**df**	**Asymptotic Significance (2- sided)**
Pearson Chi-Square	1.959[a]	4	**0.743**
Likelihood Ratio	1.995	4	**0.737**
Linear-by-Linear Association	0.373	1	**0.541**
N of Valid Cases	**150**		

4.3 Financial Practice

H_1: FInancial practice among the secondary school students determines financial literacy

H_0: FInancial practice among the secondary school students does not determines financial literacy

Table 7 shows the cross-tabulation results of the items' total score of financial practice by education level. The table below comprises the total scores obtained by respondents by answering 15 Likert scale type survey questions under the analysis of financial practice. The range of the score under this category would be from 15 - 75. Respondents are grouped into two of either having low or high financial practice which determines the level of financial literacy. High financial knowledge ranges from a scoreof 46 – 75 and the range of having a low

financial knowledge is from 15 – 45. The percentage of respondents having low financial practice from Form 1 education level is 36.4%; followed by Form 2 participants with 36.4%; Form 3 participants at 15.9%, Form 4 participants at 9.1%, and Form 5 participants at 2.3%. The percentage of respondents having high financial practice from Form 1 is 5.7%, followed by Form 2 participants at 4.7%. The percentage of Form 3, form 4, and Form 5 participants having a high financial practice is 17.9%, 26.4%, and 45.3% respectively. Therefore, among the 150 respondents, a total of 106 respondents (70.67%) generally have a high financial practice which means that they have a higher level of financial literacy.

Table 7. Total Score of Financial Practice* Education Level

			Education Level					
			Form 1	**Form 2**	**Form 3**	**Form 4**	**Form 5**	**Total**
Total Score of Financial Attitude	**Low**	**Count**	16	16	7	4	1	**44**
		(%)	36.4%	36.4%%	15.9%	9.1%	2.3%	**100%**
	High	**Count**	6	5	19	28	48	**106**
		(%)	5.75	4.7%	17.9%	26.4%	45.3%	**100%**
Total		**Count**	22	21	26	32	49	**150**
			14.7%	**14.0%**	**17.3%**	**21.3%**	**32.7%**	**100%**

Chi–square test is used to examine the effects of financial practice on financial literacy. The p-value obtained is 0.000 as shown in Table 7 which is below the significantlevel of 0.05, therefore the result indicates that there are significant association between financial practice and financial literacy. Thus, the null hypothesis (H_0) is rejected.

Table 8. Chi-SquareTest of Financial Practice Score

Crosstabulation

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	64.283[a]	4	**0.000**
Likelihood Ratio	68.532	4	**0.000**
Linear-by-Linear Association	57.863	1	**0.000**
N of Valid Cases	**150**		

5. Discussion

Table 9 below shows the results of recommendations and measures of secondary school participants towards financial literacy. A total of 81 participants (54%) strongly agree that financial literacy is important to be learned since young and 46% strongly agree that financial literacy is an important aspect in everyday life. Of the 150 respondents, 56 participants (37.30%) strongly agreed that the school is one of the best mediums to help instill financial literacy among participants. 65 participants (43.3%) and 52 participants (34.7%) responded that they are not sure if financial literacy can be learnt through talks or seminars. A total of 48% (72 participants, however, strongly agreed that learning financial literacy will help them to make better financial decisions in the future and noted of its importance and relevance as a compulsory subject in secondary school.

Table 9. Response of Recommendations and Measures

Questions	Responses									
	SD		D		NS		A		SA	
	N	%	N	%	N	%	N	%	N	%
In my opinion, students need to learn about financial literacy from a young.	0	0	3	2	34	22.7	32	21.3	81	**54**
Financial literacy is an important aspect of everyday life.	1	0.7	0	0	35	23.3	45	30	69	**46**
School is one of the best mediums that could help instill financial literacy among students.	0	0	7	4.7	41	27.3	46	30.7	56	**37.3**
In my opinion, in-depthfinancial literacy cannot be learned through talks or seminars.	4	2.7	12	8.0	65	43.3	32	21.3	37	**24.7**
It is important /relevant to have financial literacy as a compulsory subject in secondary school.	1	0.7	4	2.7	52	34.7	46	30.7	47	**31.3**
Learning financial literacy will help me tomake better financial decisions in the future.	**0**	**0**	**5**	**3.3**	**36**	**24**	**37**	**24.7**	**72**	**48**

The result from this study summarizes that there is a significant association between financial knowledge and financial literacy as well as a significant relationship between financial practice and financial literacy. However, there is no significant relationship between financial attitude and financial literacy as seen for the secondary school students in this study. From the 150 respondents, a total of 100 participants have high financial knowledge which determines a high level of financial literacy. The majority of participants, mainly a total of 69 of the 100 who have a high level of financial knowledge are participants from form 4 and form 5 education level. They are grouped to have a high level of financial knowledge as they have a more mature and comprehensive understanding of the units measured. The Form 4 and Form 5 participants also performed better in financial knowledge as some of them are currently learning the Business/Economics subjects in school which provides more advantage and familiarity with the concepts. The 50 participants who were categorized as having low financial knowledge constitute a majority of 38 participants from Form 1, 2, and 3. This is because lower secondary students conceptualize financial concepts differently due to their poor exposure to managing larger sum of money and they are not exposed to formal finance-related knowledge nor basic theories. They are only taught savings and investment, credit, and debt concepts under consumer mathematics topic in Form 3 curriculum. Therefore, less exposure to financial literacy results in lower secondary participants scoring poorly in the survey conducted.

In analyzing the association between financial attitude and financial literacy, the participants were tested on their attitude toward money management, business, risk, savings and spending, needs, and future planning. The results determine that there is no significant relationship between financial attitude and financial literacy. There is no association between financial attitude and financial literacy because financial attitude is not only learned through schools but also via external entities, family background, and peer influence. Of the 99 participants who have a high financial attitude, 43 participants are from Form 1 to Form 3 educational background while 56 participants are from Form 4 and Form 5 educational background. Upper secondary participants have a better financial attitude as they gradually learn and adapt to a better financial behavior that prepares them to face the adult phase of life. with acceptable knowledge and a mature financial attitude, participants are well-equipped and better informed in making financial decisions in the future. For the association between financial practice and financial literacy, the data showed that a total of 106 participants had attained a higher level of financial literacy. 76 of the participants consist of Form 4 and Form 5 students. This reflects that the upper secondary participants have a stronger thinking and analysing ability. They possess more responsible and careful behavior compared to the lower secondary participants. Therefore, parents generally provide the upper secondary participants with a higher pocket money which gives them more reason on how to prioritise their spending and budget themselves. Besides, upper-secondary participants have a bigger circle of friends which allows the participants to adapt to a certain financial practice because of their peers spending influence as noted in Sherraden et al., (2011) study.

The results suggested that young children have better financial practices when they have access to financial education and participate in meaningful financial services. In this study, a total of 44 of the participants were identified as having a low financial practice; 39 of them were participants from Form 1 to Form 3. This is

because lower secondary participants are more dependent on parental guidance. Thus, with less financial practice, exposure, and experience, lower secondary participants responded poorly in the survey when acknowledging fluency in financial literacy. Regarding the recommendations on financial literacy in secondary school, a total of 56 participants 150 strongly agreed that school is one of the best mediums that can help instill financial literacy. Since high school prepares students for the real world, schools should be responsible for providing vital financial skills to the students. Financial literacy skills need to include an independent subject to ensure that future generations are well-equipped with financial skills and know-how. 72 participants strongly agreed that learning financial literacy will help in making better financial decisions in the future. This is because, a financially literate individual will be able to earn more than they spend, know the importance of budgeting, have a life-long financial plan, diversify their investment, and acquire valuable assets. Hence, being financially literate is one of the key components in ensuring the standardof living of an individual. Thus, it is important to learn financial literacy skills as a young as the well-being of an individual, community, or nation is gauged upon the financial status and reserve of a country.

Young adults need to know how to budget and make sound financial decisions to live independently. Individuals, families, and society as a whole could suffer long-term consequences of poor financial planning and decisions. Low financial literacy has also been related to lower living standards, decreased psychological and physical well-being, and increased reliance on government assistance (OECD, 2012). Thus, financial literacy education can empower and equip young people with the knowledge, skills, and confidence they require to lead a better life and secure a better future for themselves and their families. Therefore, it is imperative to implement financial literacy subject in schools so that future generations have an in-depth understanding of knowledge, attitude, and practice. As suggested by Amagir et al.,(2018) school-based financial education programs can help children and adolescents improve their financial knowledge and attitudes. Moreover, financial literacy should begin as early as possible and be taught in schools. According to the OECD recommendations, an increasing number of countries such as Canada, England, and, Wales have recognized the importance of financial literacy and have incorporated financial education in primary and early secondary school curricula (OECD, 2012). For instance, England incorporated topics such as functions of money, budgeting, risk management, credit and debt, insurance, and so on in their high school curriculum. Though measures have been taken to implement financial literacy among youths in Malaysia, it is still not emphasized enough. Therefore, the Ministry of Education should incorporate financial literacy subjects in the secondary school curriculum so that the youths are exposed and prepared with financial knowledge since young. Making money decisions, minimizing costs, maximizing income, spending and budgeting, saving and investing, and banking should all be included in the financial literacy curriculum. As the nation is moving forward towards a developed country status it is of utmost importance that education policies should emphasize financial empowerment to achieve the above objective. While this study provides an overview with a small group sample, it is recommended that a bigger population representing the nationwide study be conducted to identify issues about the knowledge, attitude, and practice of the school students for a more comprehensive understanding of financial literacy among young people in Malaysia.

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Authors contributions

Davamalar and Pavithran were responsible for study design and revising. Davamalar was responsible for data collection and Pavithran drafted the manuscript and revised it according to the needs of the publication. All authors read and approved the final manuscript and both authors contributed equally to the study.

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