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FINANCIAL LITERACY AND RELATED OUTCOMES: THE ROLE OF FINANCIAL INFORMATION SOURCES

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ABSTRACT

The purpose of this study is to investigate consumers' preferences in different financial information sources and their impact on financial literacy. This study also aims to examine the impacts of financial literacy on the amount of income allocated for investment, as well as the hiring of a financial planner. A large-scale survey was conducted in Malaysia, and a total of 2000 usable responses were collected. The results showed that (1) there is a negative effect of preference in media, family and peers as financial information sources on financial literacy; (2) there is a positive effect of preference in financial planners as a financial information source on financial literacy; (3) consumers who use the Internet as their main financial information source exhibit higher financial literacy; (4) financial literacy positively influences the amount of income allocated for investment; and (5) financial literacy is negatively related to the likelihood of hiring a financial planner. This study provides empirical evidence for practitioners to improve financial literacy by encouraging the use of appropriate financial information sources. This study also offers an understanding on consumers' financial behaviors, which result from different levels of financial literacy.

Keywords: Financial literacy; Financial planner; Information sources; Internet; Investment; Malaysia.

1. INTRODUCTION

Following the increase in financial market complexity, financial literacy has become more important than ever. Thus, more financial decision-making responsibility, such as investing and saving has shifted from financial institutions to consumers (Garg & Singh, 2018; Lusardi & Mitchell, 2014), thereby requiring consumers to possess a sufficient level of financial literacy. Unfortunately, suboptimal financial literacy levels have been reported in many developed or developing countries. Taking Malaysia as an example, a Bank Negara Malaysia (BNM) survey revealed that three out of four Malaysians find it difficult to raise even RM1,000 for an emergency. In addition, bankruptcy due to car loans has risen from 2007 to 2015 as declared by the Malaysian Department of Insolvency (Malaysian Financial Planning Council, 2018). The situations above clearly indicate the inadequacy of financial literacy among Malaysian consumers.

Several lines of evidence suggest that financial literacy is linked to economic decisions. Generally, financial literacy enables consumers to engage in positive financial practices, such as budgeting,

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saving, and making sound investments (Chu, Wang, Xiao, & Zhang, 2017; Loke, 2017). On the contrary, financial illiteracy leads to unwise choice of financial products, poor debt management and less saving (Au Yong & Tan, 2017). With regards to investing, consumers with lower levels of financial literacy are less likely to participate in the stock market (Van Rooij, Lusardi, & Alessie, 2011) and tend to make suboptimal investment decision (Chu et al., 2017). In view of the important role of capital market investment to consumer financial well-being, it is interesting to note how financial literacy can play a part in consumer investment decisions. The research question regarding the effect of financial literacy on investment participation, which states, "Does higher financial literacy drive consumers to allocate more of their income to investments?" is yet to be addressed within the Malaysia context.

According to Lusardi and Mitchell (2011), one of the reasons for failure in financial planning is financial illiteracy. Kramer (2016) suggested that the use of a qualified and unbiased financial expert may reduce the negative impacts of financial illiteracy. Therefore, it is logical to argue that consumers with poor financial literacy are more likely to get a financial planner. However, the opposite might be true as well, seeing that consumers with poor financial literacy may not be aware of the importance and need of a financial planner in managing their finances. Yet, research on the demand for financial advice is not widely understood despite its importance (Kramer, 2016). Therefore, we aim to explore the relationship between financial literacy and the likelihood of hiring a financial planner.

Previously, consumers mainly rely on traditional media, such as television and radio to acquire information for financial management purposes. In addition, family and peers are also considered common financial information sources. However, the presence of the Internet has vastly replaced traditional media as the primary information source in the last decades (Ratchford, Talukdar, & Lee, 2001). In view of the abundance of information sources available, consumers need to be selective in choosing an information channel due to limited attention and information-processing capacities (Liang & Guo, 2015; Veldkamp, 2011). The following interesting questions remain: (i) "Do preferences in certain medium (i.e., media, family and peers, financial planners) as financial information sources influence consumers' financial literacy?" (ii) "Do consumers who use the Internet as their primary financial information source exhibit higher financial literacy?" Answering these questions can potentially contribute to the literature by demonstrating the effectiveness of different information sources in predicting financial literacy.

This study expands the current literature on financial literacy by tapping into the role of information sources as determinants of financial literacy. To clarify, we examine the relationship between preferences for certain financial information sources (i.e. media, family and peers) and financial literacy. Next, we further investigate whether the use of the Internet influences financial literacy. As such, we complement previous studies which have mainly focused on socio-demographic profiles as determinants of financial literacy. Lastly, we explore the effects of financial literacy on the amount of income set aside for investment purposes and the hiring of a financial planner.

After reviewing the literature in detail, we discuss our methodology and provide empirical results for the proposed hypotheses. Lastly, the discussion and direction for future research are presented.

2. LITERATURE REVIEW

2.1. Determinants of Financial Literacy

One of the most widely accepted definitions of financial literacy originated from the Organization for Economic Cooperation and Development (OECD), which defines it as the, "knowledge and understanding of financial concepts and risks, and the skills, motivation and confidence to apply such knowledge and understanding in order to make effective decisions across a range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in economic life" (OECD, 2014). Namely, financial literacy refers to the knowledge and skills necessary to handle financial challenges and decisions in everyday life (Sohn, Joo, Grable, Lee, & Kim, 2012).

To date, most studies have focused on demographic characteristics as the determinants of financial literacy, such as education level (Bianchi, 2018; Lusardi, Mitchell, & Curto, 2014; Capuano & Ramsay, 2011), gender (Driva, Lührmann, & Winter, 2016; Chen & Volpe, 2002), income level (Bianchi, 2018; Marcolin & Abraham, 2006), marital status (Bianchi, 2018), and ethnicity (Lusardi, Mitchell, & Curto, 2010; Sabri, MacDonald, Hira, & Masud, 2010). Taking ethnicity as an example, studies have shown ethnicity to be a determinant of financial literacy, not only in developed countries like the U.S., but also in developing countries like Malaysia. For instance, applying a Malaysian student sample, Sabri et al. (2010) found that Chinese students possess lower financial knowledge compared to other ethnic groups. Additionally, Bianchi (2018) indicated that financial literacy is positively correlated with education and income but negatively correlated with married and female.

Another line of evidence emphasizes the role of financial socialization, including family and peers as the predictor of financial literacy (Sabri & Falahati, 2012; Lusardi et al., 2010). Family has specifically been viewed as the primary source of financial socialization. Lusardi et al. (2010) indicate that a mother's education plays a role in the development of youths' financial literacy. In addition, it has been found that involving children in family financial matters, as well as discussions on finance can help them build their financial literacy (Sabri & Falahati, 2012; Sabri et al., 2010). Jorgenson, Rappleyea, Schweichler, Fang, and Moran (2017) further extended the previous works by illuminating attachment security as an important factor in the process of family financial socialization. The authors found that attachment insecurity negatively impacts financial communication and locus of control, and indirectly influences the financial behavior of young adults. Moreover, the role of peers in enhancing financial literacy is important as the impacts are not only evidenced in the young people sample (Maurer & Lee, 2011) but also in the elderly sample (Duflo & Saez, 2003).

2.2. The Role of Financial Information Sources

To extend the literature, we aim to consider the subject matter from the perspective of medium use. Cao and Liu (2017) urge future research to uncover effective information sources in relation to personal finances. Mass media, ranging from newspapers to the Internet, are vital financial socialization agents for both adolescents and adults (Davidson, 2012; Sohn et al., 2012; Varcoe, Peterson, Wooten Swanson, & Johns, 2010; Koonce, Mimura, Mauldin, Rupured, & Jordan, 2008). Specifically, media sources, such as television, newspapers, the radio, and the Internet are viewed as effective self-directed learning sources for financial information (Hira & Loibl, 2005). It is interesting to note that young consumers who choose media as their primary financial socialization agent report higher levels of financial literacy compared to those who choose family (Sohn et al., 2012). Thus, one can intuitively link the use of media to financial literacy levels. To clarify, selecting media as the primary source of financial information implies consumers' conscious information-seeking behavior. Obtaining financial information from media, like the Internet and newspapers, is indicative of an active effort (Sohn et al., 2012). Furthermore, media is richer in content compared to daily conversations with family and peers.

Additionally, we postulate that financial planners are a generally credible and certified source which may provide accurate and up-to-date financial information to consumers. Although the nature of person-to-person interaction is similar to family and peers, financial planners are trained and more professional in giving advice. For instance, it has been found that households with professional advisors perform better when it comes to saving (Heckman & Hanna, 2015). In contrast, acquiring financial knowledge through daily interactions with family, peers, and workplace colleagues suggests passive forms of information seeking (Sohn et al., 2012). An additional noteworthy problem is that the information transmitted by social interaction, such as family and peers is often biased (Liang & Guo, 2015; Shiller & Pound, 1989). Therefore, we posit that consumers who prefer media and financial planners as important information sources will exhibit higher levels of financial literacy. On the contrary, a preference for family and peers as financial information sources has the inverse relationship with financial literacy. Therefore, we postulate the following:

H1: The preference for the use of media as a financial information source is positively related to financial literacy.

H2: The preference for the use of a financial planner as a financial information source is positively related to financial literacy.

H3: The preference for the use of family and peers as a financial information source is negatively related to financial literacy.

2.3. The Internet as An Information Source

The Internet has emerged as the customary resource for people to acquire knowledge in almost any subjects (Fisher, Goddu, & Keil, 2015). According to Carlsson, Larsson, Svensson, and Åström (2017), as Internet activities become more prevalent, consumers' financial management behaviors inevitably undergo rapid changes. Correspondingly, the authors stress the need for further research on how personal financial behavior may respond to the development of digital technology. In a year-to-year comparison study, Varcoe et al. (2010) found that teens increasingly prefer the Internet as a financial information source. However, it is surprising to discover that limited studies exist on the influence of the Internet on financial literacy. The Internet has been described as a one-stop information hub which provides seemingly unlimited and updated content (Chan & Fang, 2007), thereby rendering it as a conducive information source for financial matters. In comparison to traditional media, the Internet is at the forefront with regards to gaining financial information and knowledge, not only because of its media affluence but also its nature in two-way communication. For instance, online learning has been found to be an effective resource for increasing financial literacy (Wolla, 2017). Likewise, Cao and Liu (2017) indicated that young adults who seek financial information through the Internet exhibit favorable financial satisfaction. As such, we posit that the use of the Internet in managing finance influences consumers' financial literacy. Specifically, individuals who use the Internet to manage their finances are expected to report higher financial literacy compared to those who do not.

H4: Consumers who use the Internet as a financial information source have higher financial literacy compared to consumers who do not.

2.4. Outcomes of Financial Literacy

2.4.1 Income Allocation for Investment

Financial literacy has been regarded as a significant predictor of investment participation, decision-making, and performance (Bianchi, 2018; Von Gaudecker, 2015; Lusardi & Mitchell, 2014). It has been revealed that financial literacy increases participation in the stock market (Arrondel, Debbich, & Savignac, 2015). This finding is not only restricted to consumers with advanced literacy but basic literacy as well (Van Rooij et al., 2011). In contrast, a lack of financial literacy has been linked to a lack of participation in the stock market (Lusardi, 2008). In this study, we expect that consumers with higher financial literacy will spend more of their income on investing because they possess a higher awareness of the market and have the confidence to make returns on their investments. It has been shown that more literate households exhibit greater portfolio returns (Bianchi, 2018). Additionally, in view of the correlation of financial literacy and overconfidence (Müller & Weber, 2010), consumers are more likely to allocate more of their income to investments, believing that they are capable to generate a sizable return. On the contrary, consumers with low financial literacy tend to view investments, such as property and shares as risky financial products, and are thus more likely to avoid them. Therefore, we hypothesize that:

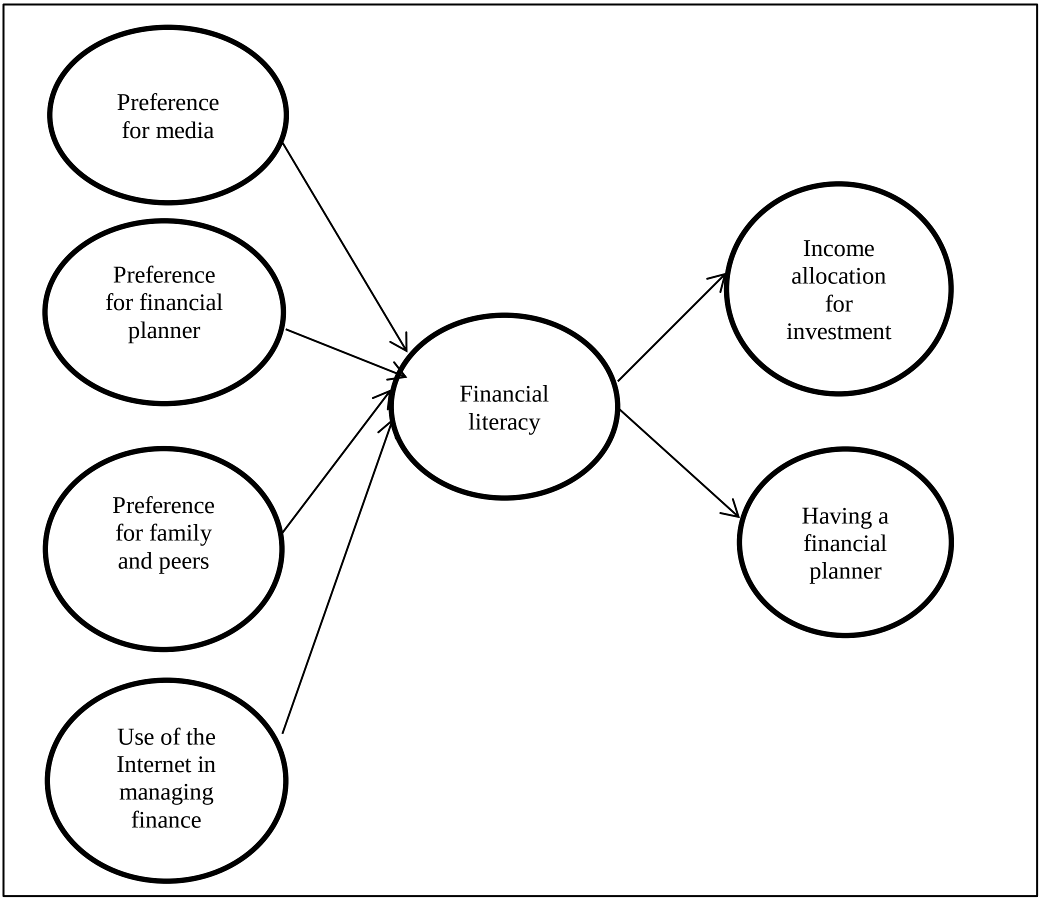
H5: Financial literacy is positively related to income allocation for investments.

2.4.2. Hiring of A Financial Planner

Van Rooij et al. (2011) state that consumers with low financial literacy are more likely to acquire financial advice from peers or family than financial advisors. Consumers with low financial literacy may confuse the different types of financial planners (i.e. financial consultant, wealth advisor) that are available in the marketplace, compelling them to manage finances by themselves. Often, they tend to fail in recognizing their ignorance within the financial domain and overestimate their ability, deterring them from pursuing better information (Calcagno & Monticone, 2015). On the contrary, Van Rooij et al. (2011) indicate that those with higher financial literacy tend to rely on professional financial advisors. In their study, the authors further indicate that the effect is especially greater when consumers possess advanced financial literacy. Similarly, Gallery, Newton, and Palm (2011) find that individuals with higher financial literacy are inclined to consult financial planners. This can be explained by the modeling effect on self-efficacy as explained in Albert Bandura's social cognitive theory (Bandura, 1997). Consumers with high financial literacy tend to believe they possess the same level of knowledge as professional financial advisors and therefore, believe they could replicate the success if they were to follow the advice of financial advisors. Also, consumers with high financial literacy tend to engage in financial planning and understand the role and importance of the financial planner, and are thus more likely to have a financial planner. Hence, we posit that:

H6: Financial literacy is positively related to the likelihood of having a financial planner.

Figure 1: Research model



3. METHODOLOGY

3.1. Procedure and Sample

This study used data from a large scale nation-wide survey from the Malaysian Financial Planning Council (2018). According to the Department of Statistics Malaysia, the total population in Malaysia for the year 2017 was 32,175,500. We targeted citizens between the ages of 15 and 64 (69.40% of Malaysia's total population) as our population for this study, as they are deemed to be sufficiently representative. Purposive sampling was used to select respondents from i) public sector employees; ii) private sector employees iii) FELDA/rural area residents; and iv) youth in institutions of higher learning, as they are deemed to cover a wide range of Malaysia's population. A total of 2000 useable responses were collected. Table 1 exhibits the sample characteristics.

Table 1: Sample frequency distribution

Variable	Frequency	Percentage
Gender		
Male	921	46.0
Female	1079	54.0
Age		
Below 20	201	10.1
20-29	633	31.7
30-39	494	24.7
40-49	305	15.3
50 and above	367	18.4
Ethnicity		
Malay	1280	64.0
Chinese	558	27.9
Indian	118	5.9
Others	44	2.2
Marital status		
Married	894	44.7
Single	1106	55.3
Income		
Less than RM3000	1141	57.0
RM3000-RM4999	509	25.5
RM5000-RM6999	187	9.4
RM7000-RM8999	65	3.3
More than RM9000	98	4.9

3.2. Measures

The preference for a financial information source: Respondents were asked to indicate the importance of each financial information medium, namely media, financial planners, and family and peers in a 1 to 7-point Likert scale (Least important to Very important). The question was, "Please RANK the following statements from 1-LEAST IMPORTANT to 7-MOST IMPORTANT."

The use of the Internet as a financial information source: Respondents were asked to indicate their use of different medium in acquiring financial information from a list of choices. The question was, "Please CIRCLE (O) the items you MAINLY acquire financial knowledge or information from." Respondents who selected the Internet were coded as 1, and those who did not choose the Internet were coded as 0.

Having a financial planner: Respondents were asked to answer a yes/no question with regards to whether they have a financial planner. Respondents who selected yes were coded as1, and those who selected no were coded as 0. The question was, “Do you have a financial planner?”

Financial literacy: Respondents were asked to answer thirty-two true/false statements adopted from Sabri et al. (2010), which cover eight domains, namely cash flow management, debt management, saving and investment, retirement planning, risk management, Islamic products, taxation and estate planning, and general questions on the Malaysian financial system. A sample of the statements was, “The longer the repayment period, the lower the cost of the overall loan.”

Income allocation for investment: In a closed-ended question, the respondents were asked to indicate the percentage of annual income they set aside for investment purposes. The question was, “What is the percentage of your annual income that is set aside for investment purposes?”

4. RESULTS AND DISCUSSION

As shown in Table 2, by controlling the effects of age and gender, results from the regression analysis revealed that the preference for media (β= -0.181, $p < 0.05$), a financial planner (β= 0.300, $p < 0.05$), and family and peers (β= -0.221, $p < 0.05$) as financial information sources were significantly influenced by financial literacy. Subsequently, as exhibited in Table 3, we ran an independent t-test and found that consumers who use the Internet as a financial information source reported higher financial literacy ($M_{Int} = 20.67$, $M_{non\text{-}Int} =$ 19.28, $p < 0.05$). Results from an ordinal regression showed that financial literacy is significantly related to the amount of income allocated for investment (β= 0.035, $p < 0.05$). Lastly, we performed a logistic regression to test the relationship between financial literacy and the likelihood of having a financial planner. The results indicated a significant relationship ($p < 0.05$), with an odd ratio of 0.952, implying that with the increase in financial literacy, the chance of consumers having a financial planner is lower. In brief, all proposed hypotheses were supported except H1 and H6.

Table 2: Regression Test of Financial Information Source Preference on Financial Literacy

Independent variable	**Dependent variable**		
	Financial literacy		
	Beta	**Std. error**	**p-value**
Preference for media	-0.181**	0.037	0.000
Preference for a financial planner	0.300**	0.051	0.000
Preference for family and peers	-0.221**	0.041	0.000

Note: ** p<0.01

Table 3: Mean, F-value and p-value for Financial Literacy Using the Internet

Use of the Internet	**Mean**	**F-value**	**p-value**
Yes	20.67	9.247	0.000
No	19.28		

First, the results exhibit that consumers' financial literacy is affected by the financial information source they prefer. Upon closer inspection, it has been found that the preference for media and the preference for family and peers as financial information sources negatively influence financial literacy. In contrast, a preference for a financial planner as a financial information source positively influences financial literacy. It is within our expectation that family and peers would be considered a suboptimal option for a financial information source, not only because it is a passive form of information seeking but also because of the incomplete and possibly misleading information that can be acquired from family and peers. On the other hand, as financial planners are a more reliable and professional financial information source, consumers are more likely to enhance their financial literacy by following their advice and acquiring information from them. However, attention must be paid to financial planners who offer advice and sell financial assets as they may not effectively mitigate the problem of low financial literacy (Calcagno & Monticone, 2015).

Second, in contrast to previous findings (Sohn et al., 2012), a preference for media as a financial information source surprisingly resulted in an undesired financial literacy level. The reason for this rather contradictory result is still not entirely clear. A possible explanation is the ineffective nature of certain traditional media in transmitting financial knowledge. Particularly, traditional media do not foster an interactive environment for financial learning, but instead offer a one-way information learning method. Therefore, consumers may not be able to improve their financial literacy in this manner effectively, and may find it difficult to apply financial knowledge into real world situations. Mandell and Klein (2009) highlight that financial education that is delivered in an interactive and enjoyable nature can be more effective than financial education delivered through purely didactic-based learning methods. To further validate our proposition, we examined whether consumers who primarily use the Internet as a financial information source score greater in financial literacy than users who do not primarily rely on the Internet. Our results are in line with our expectations and indicate that the use of the Internet leads to a difference in financial literacy. It is interesting to note that using the Internet to manage finance can result in greater levels of financial literacy. Although the Internet has been known for information free-flow, which potentially results in misleading information, the positive effect seems to outweigh the negative. This can be explained by the mere fact that financial institutions, such as banks, stock trading brokers, and financial newspapers have been gradually moving to an online platform during the past decades. Moreover, consumers are becoming more familiar with the Internet (Bae & Lee, 2011), and are thus more likely to turn to the Internet as a useful learning tool for financial matters. Generally, this implies that there is a need to differentiate and identify the role of traditional and new media to improve financial literacy.

Third, financial literacy is positively related to the amount of income allocated to investment. A plausible explanation for this is that financial literacy is positively correlated with overconfidence (Müller & Weber, 2010), thus driving consumers to invest more of their income. In addition, highly financial literate consumers tend to perform better when it comes to investing (Abreu & Mendes, 2010; Müller & Weber, 2010), driving them to spend more on investment.

Fourth, the proposed relationship between financial literacy and the likelihood of having a financial planner conflicts with our earlier prediction. This finding is similar to certain studies (Calcagno & Monticone, 2015; Müller and Weber, 2010) but contradictory to that of Disney, Good, & Weber (2015). We find that the more consumers excel in financial literacy, the less likely they are to employ a financial planner. This is especially true seeing that consumers with high financial literacy believe in their capability in managing finance, and their overconfidence with regards to their own financial literacy deters them from seeking financial advice (Kramer, 2016). Furthermore, they are empowered since most of the financial products and pertinent information can be obtained and processed online, thus removing the need for intervention by a financial planner. Arguably, the "value added" of the service provided by financial planners may appear to be lesser for consumers with high financial literacy compared to consumers with low financial literacy. Additionally, high financial literacy may instill the assumption of being more informed than others (Gentile, Linciano, & Soccorso, 2016), thereby decreasing the chance of financial advice-seeking.

In short, although media, family and peers have their role as financial information sources, consumers should be careful when using these sources and should not overly rely on them. Conversely, consumers should at least use the Internet when managing their finances due to its powerful and irreplaceable evolutionary features. Practitioners should educate consumers on the correct use of the Internet for financial management, especially older consumers who are generally deemed to be Internet illiterate. Although it is generally difficult to control how consumers access financial information on the Internet, practitioners can offer certain guidance. Primarily, consumers should learn to avoid various forms of fraud by recognizing potential threats, such as phishing and pharming. Subsequently, they need to be trained to maintain objectivity when facing enormous financial information on the Internet. Preferably, they should refer to proper websites per their information needs. For example, consumers should visit authorized financial institution websites when they need information regarding their specific financial institution, rather than visit a random blog or social media page. In addition, high financial literacy is not universally positive in view of the correlation with overconfidence (Müller & Weber, 2010). In this case, financial educators need to take initiative by conveying the message on the importance of a financial planner, even for high financial literate consumers. Similarly, financial advisors should not only help low financial literate consumers find a balanced amount of investment in proportion to their income, but also help high financial literate consumers as they tend to invest more and can potentially create an over-risky investment portfolio.

5. CONCLUSION

Our study contributes to the financial literacy literature in several ways by delineating a framework encompassing relationships among financial information sources, financial literacy and its outcomes. In brief, preference for certain financial information sources influences individuals' financial literacy. In addition, financial literacy has an impact on individuals' investment decisions and the likelihood of having a financial planner. However, this study has limitations that can be addressed in future research. First, although this study has found the Internet to be an important financial information source to help enhance financial literacy, future studies should investigate the mechanisms driving this relationship. Second, although this study has revealed positive associations between the preference of a financial planner as an information source and financial literacy, future research needs to investigate ways to optimize the impact of financial planners as information sources since findings have suggested that the mere presence of qualified financial planners may not be sufficient to counteract low levels of financial literacy (Calcagno & Monticone, 2015). Third, this study has discovered that financial literacy is positively related to the amount of investments and therefore, future studies can expand the study by examining whether financial literacy influences the perceived risk of investments. Lastly, future studies can integrate more financial-related outcomes into this study, such as financial capability and financial well-being to provide a more comprehensive understanding.

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