Teachers’ financial literacy: Does it impact on financial behaviour?

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ABSTRACT

This study aimed to determine the impact of financial literacy on financial behaviour among teachers of secondary school. Financial behaviour in this study was explored as saving behaviour, shopping behaviour, short-term planning and long-term planning. Data were collected at the Greater Jakarta, Indonesia, involving 142 participants who were approached conveniently. Data were analysed using the reflective measurement model in Partial Least Square-Structural Equation Modelling. As a result, financial literacy had a significant impact on financial behaviour in terms of saving behaviour, shopping behaviour, short-term planning and long-term planning.

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Keywords: Financial literacy, Financial behaviour, Saving behaviour, Shopping behaviour, Short-term planning, Long-term planning

1. Introduction

The low level of financial literacy has become a global phenomenon (Yew et al., 2017). Xu and Zia (2012) found a low level of financial literacy in every level of society, either in lower-middle, upper-middle or high-income countries. Therefore, the importance of financial literacy is very clear due to the financial crisis that occurred in several years ago (Abdullah & Chong, 2014) and the development of financial instruments which have quite complex (Lusardi, 2008a), thus the role of financial literacy becomes one of the interesting topics to be explored. Based on the overview of theoretical research, financial literacy represents individuals’ financial knowledge, as a form of investment in human capital (Lusardi & Mitchell, 2014). According to Llewellyn (2012), financial literacy involves an individual’s ability to interpret and understand basic financial concepts and to apply knowledge to make informed decisions. Therefore, financial illiteracy, or the lack of financial knowledge, could be led an individual into ineffective financial decision making that contributes to financial problems (Yew et al., 2017). So, financial literacy supported an individual to take financial behaviour effectively (Kumar et al., 2017). People have to take some financial decision to fulfil their needs, therefore they have to be able to make the right financial behaviour to reach financial well-being (Huston, 2010). According to Xiao (2008), financial behaviour is interpreted as any human behaviour related to money management. Based on some scholars, it could be observed in many kinds of behaviour related to spending, investing the money or gaining a profit. Previous studies explain the impact of financial literacy on financial behaviour. Low financial literacy will lead to poor financial behaviour, including retirement planning behaviour (Agnew, Bateman, & Thorp, 2013; Lusardi & Mitchell, 2007a, 2007b; Van Rooij et al., 2012), retirement saving (Bateman et al., 2010), participation in the stock market (Sivaramakrishnan et al. 2017; Van Rooij et al., 2011), investment decisions (Hassan Al-Tamimi & Anood Bin Kalli, 2009) and saving-investment behaviour (Bhabha et al., 2014). Another research explores financial behaviour in
terms of saving decisions (Murendo & Mutsonziwa, 2017) or saving behaviour (Jamal et al., 2015; Widyastuti et al., 2016), shopping behaviour (Varcoe et al., 2005). Previous research also has been widely studied financial behaviour which is reflected by short-term investment decision making (Hunjra & Akhtar, 2011; Henager & Cude, 2016), long-term investment decision (Henager & Cude, 2016). The research about the influence of financial literacy on financial behaviour is also carried out by Allgood and Walstad (2016). Financial behaviour has observed as credit card behaviour, investment behaviour, loan behaviour, insurance behaviour, and behaviour of using financial advisors.

![Conceptual Framework](image)

**Fig. 1. Conceptual Framework**

Based on the literature review, financial literacy and financial behaviour have been studied widely. The studies employed various participants including college students (Chen & Volpe, 1998; Kennedy, 2013; Lusardi et al., 2010; Nidar & Bestari, 2012) and student’s teacher (Widyastuti et al., 2016). Some others included young adults (Allgood & Walstad, 2016; Lusardi et al., 2009), employees (Clark et al., 2017), and households (Allgood & Walstad, 2016; Brown & Gray, 2014; Navickas et al., 2014). Additionally, some studies employed working women (Bhabha et al., 2014). Unfortunately, there is a lack of literature discussing financial literacy related to financial behaviour from teachers’ perception. Based on a review of research studies, this study will explore the impact of financial literacy on saving behaviour, shopping behaviour, long-term planning, and short-term planning. The model is developed to fill the research gap. The conceptual framework of this study is represented in Fig. 1.

## 2. Research Methodology

### 2.1. Profile of Respondents

This study employs 142 participants of teachers of Senior High School and Vocational Senior High School at the Greater Jakarta. Table 1 describes the characteristics of the respondents based on demographic factors. The sample consists of 76 (53.5%) males and 66 (46.5%) females, which is categorized in five groups of ages. The majority of the respondent (44.4%) were 25-34 years old. Based on the educational background, on average, most of the respondent hold Bachelor degree, but there were 23 (16.2%) teachers who hold master’s degree of science or Ph.D. degree. The respondents were grouped into three groups of marriage status including married (69.7%), not married (28.9%) and divorced/separated/widow/er (1.4%), so most of them were married. The sample who has married and having 1-2 children consisted of 73 (51.5%) teachers. If respondent categorized based on the income that they got, there are 42 teachers who have the income more than IDR 8 million, 34 teachers with the income more than IDR 6 to 8 million, 29 teachers with the income more than IDR 4 to 6 million, 32 teachers with the income more than IDR 2 to 4 million and only five teachers who got the income less than IDR 2 million.

| Demographic Factor | Frequency | Percent (%) |
|--------------------|-----------|-------------|
| Gender:            |           |             |
| Male               | 76        | 53.5        |
| Female             | 66        | 46.5        |
| Age (years old)    |           |             |
| < 25               | 19        | 13.4        |
| 25 - 34            | 63        | 44.4        |
| 35 – 44            | 30        | 21.1        |
| 45 – 54            | 27        | 19.0        |
| > 55               | 3         | 2.1         |
| Income:            |           |             |
| < IDR 2 million    | 5         | 3.5         |
| > IDR 2 – 4 million| 32        | 22.5        |
| > IDR 4 – 6 million| 29        | 20.4        |
| > IDR 6 – 8 million| 34        | 24          |
| > IDR 8 million    | 42        | 29.6        |
| Education:         |           |             |
| Bachelor           | 119       | 83.8        |
| Master and Ph.D    | 23        | 16.2        |
| The number of children: |     |             |
| No child           | 60        | 42.2        |
| 1-2 children       | 73        | 51.5        |
| 3 or more children | 9         | 6.3         |

| Total              | n = 142   | 100.0       |

| Demographic Factor | Frequency | Percent (%) |
|--------------------|-----------|-------------|
| Marriage:          |           |             |
| Married            | 99        | 69.7        |
| Not married        | 41        | 28.9        |
| Divorced/Separated/Widow/er | 2 | 1.4 |

### 2.2. Measures/Scales

The questionnaire consists of five items to measure financial literacy, which is adopted from Knoll and Houts (2012), and twenty-one items to measure financial behaviour in terms of saving behaviour, shopping behaviour (Varcoe et al., 2005),
long-term and short-term planning (Wagner, 2015). Indicators of all variables as given in Table 2 were measured using 5 points Likert’s scale starting from 1 to represent “strongly disagree” to 5 to represent “strongly agree”.

2.3. Validity and Reliability Test

Validity test could be conducted by considering loading factor for each indicator which is reflected latent variable. Table 2 shows the loading factor for all indicators in the outer model. If the loading factor is more than 0.7, it could be concluded that the indicator is acceptable (Hair et al., 2016). The indicator did not fulfill the criteria should be deleted from the outer model, then the data analysis was continued for the second iteration. Table 2 also describes the loading factor of the outer model for the first iteration and second iteration after deleting some indicators.

Table 2
Factor Loading of the Outer Model

| Indicator of Latent Variable | Factor Loading for the First Iteration | Factor Loading for the Second Iteration |
|------------------------------|----------------------------------------|----------------------------------------|
| **Subjective Financial Knowledge:** |                                        |                                        |
| An investment with a high return is likely to be high risk. | 0.818 | 0.842 |
| High inflation means that the cost of living is increasing rapidly. | 0.673 | Deleted |
| It is usually possible to reduce the risk of investing in the stock market by buying a wide range of stocks and shares. | 0.791 | 0.818 |
| Buying a single company stock usually provides a safer return than a stock mutual fund. | 0.339 | Deleted |
| It is less likely that you will lose all of your money if you save it in more than one place. | 0.779 | 0.828 |
| **Saving Behaviour** |                                        |                                        |
| I'm likely to save money by packing my lunch instead of buying it out. | 0.453 | Deleted |
| Saving money for the future is something I think about. | 0.837 | 0.837 |
| When I get money, I save some of it no matter what. | 0.857 | 0.863 |
| I do a good job of budgeting my money. | 0.812 | 0.824 |
| **Shopping Behaviour** |                                        |                                        |
| When I go shopping, I compare prices. | 0.879 | 0.854 |
| When I go shopping, I impulse buy. | -0.368 | Deleted |
| When I go shopping, I wait to buy items on sale. | 0.740 | 0.789 |
| **Long-Term Planning:** |                                        |                                        |
| I set financial goals for the next 1-2 years for what I want to achieve with my money. | 0.826 | 0.835 |
| I decide beforehand how my money will be used in the next 1-2 years. | 0.856 | 0.857 |
| I actively consider the steps I need to take to stick to my budget in the next 1-2 years. | 0.767 | 0.773 |
| I consult my budget to see how much money I have left for the next 1-2 years. | 0.098 | Deleted |
| I like to look at my budget for the next 1-2 years in order to get a better view of my spending in the future. | 0.841 | 0.863 |
| It makes me feel better to have my finances planned out in the next 1-2 years. | 0.858 | 0.858 |
| **Short-Term Planning** |                                        |                                        |
| In a typical month, it is difficult for me to cover my expenses and pay all my bills. | -0.091 | Deleted |
| I always have a checking account. | 0.421 | Deleted |
| I set financial goals for the next 1-2 months for what I want to achieve with my money. | 0.784 | 0.788 |
| I decide beforehand how my money will be used in the next 1-2 months. | 0.859 | 0.869 |
| I actively consider the steps I need to take to stick to my budget in the next 1-2 months. | 0.816 | 0.817 |
| I consult my budget to see how much money I have left for the next 1-2 months. | 0.283 | Deleted |
| I like to look at my budget for the next 1-2 months in order to get a better view of my spending in the future. | 0.844 | 0.843 |
| It makes me feel better to have my finances planned out in the next 1-2 months. | 0.891 | 0.891 |

After considering the loading factor, thus the second criteria to test the construct validity refers to the value of Average Variance Extracted (AVE). If AVE is more than 0.5, it means that the construct explains more than a half of the variance of its indicators. Table 3 shows that the test of validity using AVE for each variable is significant with p-value 0.000; it can be concluded that the instrument to measure latent variable have been matched with the criteria required in construct validity.

Table 3
Construct Validity and Reliability

| Latent Variable | AVE | p-value | Cronbach’s Alpha | p-value | Composite Reliability | p-value |
|-----------------|-----|---------|------------------|---------|-----------------------|---------|
| Financial literacy | 0.688 | 0.000 | 0.779 | 0.000 | 0.869 | 0.000 |
| Saving behaviour | 0.708 | 0.000 | 0.794 | 0.000 | 0.879 | 0.000 |
| Shopping behaviour | 0.675 | 0.000 | 0.522 | 0.000 | 0.675 | 0.000 |
| Long-term planning | 0.702 | 0.000 | 0.902 | 0.000 | 0.922 | 0.000 |
| Short-term planning | 0.709 | 0.000 | 0.901 | 0.000 | 0.709 | 0.000 |

To ensure that the instrument is reliable, the test of reliability is applied based on the value of composite reliability and Cronbach’s Alpha. When the p-value is less than a significance level of 5%, it says that the instrument is reliable. Refers to table 3, this study shows that the measurement of each latent variable is reliable.

2.4. Data Analysis

Data has been analysed using Partial Least Square-Structural Equation Model (PLS-SEM) since this study involves a small sample size (Hair et al., 2016). The reflective measurement model was applied to examine the influence of exogenous latent
variable on the endogenous latent variable. The two keys of the important criteria for assessing the structural model in PLS-SEM are the significance of path coefficient and the level of R-square (Hair et al., 2016).

2.5. Hypotheses

The research hypotheses will be tested using one-tailed t-test with a significance level (α) of 5%. The hypotheses will be accepted when the p-value is less than α, or the value of t statistics is more than t-table (one-tailed test = 1.64). This study develops four hypotheses to be tested in a quantitative approach, as follow:

H1 : There is a positive impact of financial literacy on saving behaviour.
H2 : There is a positive impact of financial literacy on shopping behaviour.
H3 : There is a positive impact of financial literacy on long-term planning.
H4 : There is a positive impact of financial literacy on short-term planning.

3. Results

Table 4 provides the direct effect of each variable in the inner model. It describes the path coefficient that explains the direct effect of each variable namely: (1) the effect of financial literacy on saving behaviour, (2) the effect of financial literacy on shopping behaviour (3) the effect of financial literacy on long-term planning, and (4) the effect of financial literacy on short-term planning. As hypotheses tested, the direct effect of financial literacy on saving behaviour is significantly proven (path coeff. = 0.416; t stat. = 4.132; p = 0.000), so this study shows that the first hypothesis is accepted. It means there is a positive effect of financial literacy on saving behaviour. It could be interpreted that someone with higher level of financial literacy tends to save money.

| Financial Literacy → Saving Behaviour | Original Sample (O) | t-statistics | p-values | R-Square |
|--------------------------------------|---------------------|--------------|----------|----------|
| 0.416                                | 4.132               | 0.000***     | Accepted | 0.173    |

| Financial Literacy → Long-term Planning | Original Sample (O) | t-statistics | p-values | R-Square |
|-----------------------------------------|---------------------|--------------|----------|----------|
| 0.299                                  | 3.614               | 0.000***     | Accepted | 0.089    |

| Financial Literacy → Short-term Planning | Original Sample (O) | t-statistics | p-values | R-Square |
|------------------------------------------|---------------------|--------------|----------|----------|
| 0.310                                   | 3.175               | 0.000***     | Accepted | 0.096    |

***significant at level 1%

This study also has shown the impact of financial literacy on shopping behaviour (path coeff. = 0.335; t-stat = 2.944; p = 0.002). The second hypothesis has been accepted, so it could be concluded that financial literacy had a positive effect on shopping behaviour. This study also found that the third hypothesis was accepted (path coeff. = 0.299; t-stat = 3.614; p = 0.000). Therefore, it means there was a significant positive impact of financial literacy on long-term planning. The latest hypothesis has been proved that there is a positive effect of financial literacy on short-term planning (path coeff. = 0.310, t-stat = 2.944, p = 0.000). As seen from R-square in Table 3, the contribution of financial literacy on shopping behaviour in the structural model is 11.2%. In contrast, financial literacy contributes significantly to long-term behaviour for only 9.6%. The greatest contribution of financial literacy is achieved in explaining saving behaviour, as much as 17.3%. The lowest contribution of financial literacy is 8.9 percent in explaining long-term planning.

4. Discussion

As noted above, financial behaviour has been addressed for many types of financial decision making related to money management. So, this study has identified financial behaviour into four types of decisions in planning or spending the money. This study was designed to analyse how teachers’ financial literacy influenced saving behaviour, shopping behaviour, short-term planning, and long-term planning while, financial literacy reflected subjective financial knowledge. It captured the teacher’s perception of their knowledge about inflation, diversification, risk, return, and stock. Empirically, this study has proven a significant positive impact of financial literacy on financial behaviour, for all types of behaviour which is observed. In general, these results are supported by previous studies that also showed a significant positive impact of financial literacy (or financial knowledge) on financial behaviour (Fernandes et al., 2014; Kumar et al., 2017; Nicolini et al., 2013). Some literature conducted by Jamal et al. (2015), Lusardi (2008b) specifically tested the impact of financial literacy on saving behaviour and also supported this study. The finding tells us that financial literacy had a positive influence on saving behaviour. People, with a better level of knowledge and understanding in financial concept, will act in a better way to save the money for the future. In this research, saving behaviour was investigated from teachers’ perception about saving for the future, the habit to save money and making a financial budget. The result is consistent with de Bassa Scheresberg (2013), who found that financial literacy had a positive influence on financial behaviour in young adults, both reflecting saving for emergencies, saving for day-to-day activities and using high-cost methods of borrowing. Varcoe et al. (2005) have shown that financial literacy increased through the financial education program and could positively change financial behaviour. This study adopted the measurement of shopping behaviour which is developed by Varcoe et al. (2005) and the results showed that financial literacy had a significant positive impact on shopping behaviour. Shopping behaviour in this study is reflected by comparing the price when someone
goes shopping and waits to buy something on sale. The study conducted by Henager and Cude (2016) examined the relationship between financial literacy and financial behaviour by grouping respondent into age groups. Financial literacy was highlighted in objective financial knowledge, subjective financial knowledge or confidence, and subjective financial management ability. Meanwhile, financial behaviour was separated into long-term and short-term planning. This study concerned on short-term budgeting to measure short-term planning, while Henager and Cude (2016) defined short-term planning as spending and emergency saving behaviour. Another study also found that financial literacy affected short-term decision making, in the context of investment (Akhtar et al., 2011). In general, the findings of this research have been supported by the research which has found a positive impact on financial literacy on short-term behaviour such as setting financial goals and control the budget for the next 1-2 months. This study found that financial literacy had a significant positive effect on long-term behaviour. This results are consistent with Henager and Cude (2016) which proved the impact of financial literacy on long-term planning. Long-term planning is defined as retirement saving and investment behaviour. Thus, another research also proved the impact of financial literacy on retirement planning (Lusardi, 2008b). Consistent with this result, Lusardi (2008b) stated that the lack of understanding about financial concept can lead to the lack of retirement planning. Lusardi and Mitchell (2005) also showed that financial knowledge and planning were interrelated, it meant when people have a good understanding in financial knowledge they could succeed their planning. In this study, long term planning was explored as setting financial goals, making a financial budget and planning about spending for 1-2 years later. This study showed that people rarely consulting their budget to financial advisor for a better planning.

5. Conclusion

This study has concluded that there was a positive influence of financial literacy on teachers’ financial behaviour, which is separated into four types of behaviour including saving behaviour, shopping behaviour, long-term planning, and short-term planning. People with a high level of financial literacy will lead to save more money for the future, comparing price before shopping and getting the sale when shopping, setting the financial goals and arrange a financial budget for short-term and long term. This study, in general, proved financial literacy led people to decide in a wise action and effective financial behaviour. Based on the results, this study suggests that government facilitate financial education to enhance the level of financial literacy in relating to capital markets such as stocks, mutual funds, and bonds. Addressing future research, it is necessary to increase public awareness in managing their financial resources through financial education to enhance financial literacy, and asseesse the effect on financial behaviour, especially for long-term planning, such as retirement planning and investment behaviour. One important thing which have not been explored is about the role of financial literacy on financial well-being.

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