

The Influence Of Cultural Possession, Perseverance And Openness To Problem Solving In Development Of Financial Literacy Among High School Students

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Abstract: This study was aimed to discover the cultural possession, perseverance and openness to problem solving on financial literacy in Medan city, Indonesia. This research explored 3 variables, namely cultural possession, perseverance and openness to problem solving, that is associated with the senior high school students' level on financial literacy in Medan city. The data were gathered using questionnaires and were analyzed by using linear regression. The result of this study showed that cultural possession had negative effect and not significant in the relationship with senior high school students' financial literacy in Medan city. The result showed that perseverance had positive effect and not significant in the relationship with senior high school students' financial literacy in Medan city. Openness to problem solving had positive effect and significant in the relationship with senior high school students' financial literacy.

Keywords: financial literacy, cultural possession, perseverance, openness to problem solving.

1. INTRODUCTION

Financial Literacy is one of important skills for everyone's life. It is not only important for entrepreneurs, professionals, but also for each individual who needs financial knowledge. Moreover, it is important since in this globalism era financial system has been more sophisticated and financial products have been developing. Thus, financial literacy is a must for every person in every age. Learning financial literacy has to be started as early as possible for people are capable to make a wise decision starting from the capability to make personal financial management. If a person does not have a responsibility in her/his own personal financial management in early life that will influence her /his financial safety in late life (Robert, 2006 and Lusardi et al,2010). Personal skill development is obtained by changing one's behavior. A youngster gains culture, norm, belief standard from the parents, which leads a youngster to have value, belief, behavior, expectation and motivation regarding finance (Moschis,1987). A culture which is handed down from generation to generation can still change for better development. Indonesian literacy development level was low, Indonesian people who love to read was only 0.01% from all of the population (data from UNESCO 2012).

The low interest in reading highly affects the quality of Indonesian. The culture of reading has not been handed down from generation to generation despite the definition of literacy is highly related to reading. In 2013, the level of Indonesian people's financial literacy was still low (OJK, 2013). That was the same with the result of a study on senior high school student' financial literacy in Medan, which level of financial literacy was low (Irawati & Hasibuan, 2016) (Irawati and Sipayung, 2016). The low level of senior high school students' financial literacy reflected Indonesian low literacy development. With around 8 million of Indonesian students (according to the Indonesian Ministry of Education and Culture in 2013), senior high school students are supposed to be educated with financial knowledge while they are still in early stage of life in order to build a better long term financial literacy development in Indonesia. Generally, there are a lot of researches that used and found that demography factors influence individual financial literacy level. Chen and Volpe, (1998) have proofed that women with working experience have less low literacy level. But there are only few researches which used behavior and psychology factors in the relationship with financial literacy level. This research tries to use behavior and psychology factors in the relationship with financial literacy level by applying PISA-2012-based model. This model using student's index scale to evaluate the factors related to financial literacy level of the student, which consists of cultural possession, perseverance and openness to problem solving. In Indonesia financial literacy education is still something that is very rarely done both in the family or school, giving education about financial literacy is still not done seriously and planned. Financial literacy education in students is not just about the introduction of money, but furthermore financial literacy education in students is a concept of introducing wisely financial management and being able to control financial expenditures by distinguishing what is needed and which are only desires. In Indonesian society culture is taboo to talk about everything about money in front of student. Financial literacy education is needed to educate people who are aware and understanding about how to manage finances wisely and as needed. Financial literacy education must be provided as early as possible to student, especially in high

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school student, because with the introduction of financial literacy knowledge from an early age, children will become accustomed to managing finances properly and in the future.

2. REVIEW OF LITERATURES

2.1. Financial Literacy

Financial literacy is the level of knowledge, skills, community beliefs related to financial institutions and their products and services as outlined in the index size parameters (Faulkner, 2015 & 2016). Financial literacy helps in providing an understanding of financial management and opportunities to achieve a more prosperous life in the future. Financial literacy is very important for a person in making decisions, especially those related to daily activities such as in making a decision to save or investment to achieve a predetermined goal (Frączek, 2015, Centobelli et al., 2017 and Faulkner, 2017). Financial literacy, besides being beneficial for the individual itself, is also beneficial for the sustainability of the economic system. financial literacy is the ability to understand financial conditions and financial concepts and to change that knowledge appropriately into behavior. Financial Literacy Knowledge provides a measure of a person's ability to process economic information obtained and make decisions to make financial planning, financial accumulation, retirement, and debt. Lusardi and Mitchell (2007) defined financial literacy as financial knowledge and the financial ability. Meanwhile, Chen and Volpe (1998) defined that financial literacy is money management knowledge. Financial literacy is categorized into 2 matters which are the ability level of an individual to understand financial information and to use financial information to manage personal finance in both sort and long term (Madell, 2006; Huston, 2010; Remund, 2010). The same with Remund (2010) who stated four most common things in financial literacy which are budgeting, savings, credit, and investment. Jumpstart Coalition for Personal Financial Literacy (2005) conducted surveys on senior high school student's financial literacy in United States regarding financial knowledge on topics of income, financial management, saving and investment, and credit.

2.2. Culture

Culture is a way of life consisting of behaviors, beliefs, values that develop and are owned by a group of people and are handed down from generation to generation. Culture is constructed from a lot of complex elements including religion and politics systems, customs, languages, tools, clothing's, building, and art. People use values as the foundation, reasons and motivation in every step and action. In practice, values are realized in the form of norms which are a set of prohibitions, unwanted things. Values which are planted inside a person by the environment will create a person's perspectives toward environment and behaviors in life. The familiarity with such values will in the end develop behaviors, because with such values a person's perspectives and behaviors are controlled. A strong will and strong actions of a person will develop a way of life.

2.3. Programmed for international Student Assessment (PISA)

PISA was a research on program for international student assessment which was held by Organization for Economic Cooperation Development (OECD) with the aim to evaluate

the mastery level on financial literacy knowledge in teenagers so that they can become a responsible member of the society (PISA, 2012). The development done by PISA 2012 was not only on researches on demography factors related to financial literacy level but also on assessments on the relationship between students' behaviors and their financial literacy.

2.4. The Behavioral Finance

Behavioral finance is a study on the influence of psychology on financial behaviors and the impacts on market (Olson, 2006 and Sewell, 2010). Based on behavioral finance theory, financial actors are human with their characteristics and in various situations they make their own decision based on rational thinking influenced by their own behaviors and psychological conditions. That is supported by Pompian (2008) who made a conclusion that there are influences of behavioral finance on investment decision. Investment decision is affected by individual behaviors which are constructed from psychological factors inside a person. With the existence of complex financial products, thus, behavioral finance theory can be applied to illustrate clearly regarding psychological factors in research development of financial literacy research from psychological perspectives.

2.5. Theory of Cognitive and Non-Cognitive

The definition of cognitive theory from Jean Piaget - the terms of "Cognitive" is originated from the word cognition which means understanding, understand (Gao, 2005). The definition of cognition is acquisition, management, and knowledge application. This cognitive terms was popular as one of human psychology area. The common concept which includes all form of knowing including every mental behavior related to understanding, paying attention, giving, guessing, considering, information managing, problem solving, imagining, forecasting, thinking and believing (Piaget). According to The American Psychological Association Dictionary, cognitive is every form of knowledge and concern including perception, concerning, remembering, reasoning, assessing, imagining and problem solving. Financial literacy as a knowledge and ability involves cognitive processes and non-cognitive processes (Godinho, 2015). Cognitive processes include information gathering, comparing and evaluating things related to finance. Non-cognitive processes include motivation in searching information and advice to participate in financial activities, ability to manage emotional and psychological factors influencing financial decision making.

2.6. Review of Related Studies

There are so many researches to measure financial literacy level throughout the world, which is not only in advanced nations but also in developing nations. Each research tries to observe different factors to define the level of financial literacy. Chen and Volpe (1998) carried out a research entitled "An Analysis of Personal Financial Literacy among College Student". They surveyed 924 college students from 14 universities in California, Florida, Kentucky, Massachusetts, Ohio, and Pennsylvania. The purpose was to find out the description of personal financial literacy among college students, to analyze the relationship between the characteristics of college students and financial literacy, also analyze the impact from knowledge on opinions and decisions made by the students regarding financial issues. PISA (2012) conducted a research which concluded that behavior is an

important element of financial literacy. Non-cognitive behavior complementing cognitive factor is a relevant predictor for economic and social result (Borghan et, al, 2008). There was enough proof from economy and psychology that cognitive ability can be applied to priding relevantly (Heckman and Stixrud, 2006). That is similar with Arellano's research (2014) which employed non-cognitive factor which is important to develop youngsters' financial literacy and focused on self-confidence. That is similar with Johnson and Sherraden (2007), Arellano's (2014), Jamal et al., (2015) which employed non-cognitive factor which is important to develop youngsters' financial literacy and focused on self-confidence. Lubis et al., (2015) performed a research from financial behavior point of view regarding individual consideration factor in investment decision. That was concluded that behavior and psychology and character factors influence risky financial behavior. And so with repay criterion from an individual is influenced by defense mechanism and financial literacy level. Faulkner (2017) conducted a research which concluded that Financial literacy education in the United States where responding to increased interest peoples' financial literacy skills and abilities to understand and manage their money. Centobelli et al., (2016) find that the evolution of engineering management education is knowledge and skills evolution. The professional role of the engineer the enhancement of existing knowledge and skills also balance between specialist and management skills.

2.7. Conceptual Framework

Financial literacy level is different in each individual. There are many factors that influence the level of financial literacy, which from either environment in general or the individual's environment. Financial literacy is a skill which combines financial knowledge, skill, and behavior. Financial literacy helps an individual to make better financial decisions. However, behavior can not appear in an instant but from an individual process in life. Behavior is constructed by culture where individual environmental exists. Culture aspect cannot be separated from financial decision making. Behavior influences decision made. Nevertheless, behavior is an effect chain from culture where the culture determines the values that control behaviors which in this case in terms of financial literacy. There is one of social influences that involve personal or a group's social power to change other person or other groups' behavior to certain direction (Franzoi, 2006). A research result from Demosthenous et al., (2006) shows that a history of anAborigine people's experience on finance and social responsibility influence money management. This research concludes that cultural identity affects financial literacy which then affects money management. PISA 2012 define that financial literacy includes non-cognitive attributes such as the ability to manage emotion and psychological factors affecting financial decision making. Positive behaviors are acquired from education or learning such as perseverance and openness to problem solving related to better mathematical performances. A same relationship between perseverance and openness to problem solving and financial literacy also has been observed. Strengthening perseverance and openness to problem solving behaviors in school will lead to positive influence which not only to obtain the main skills but also the skills in financial decision making. There are many financial decisions that require continuous effort and long term patience. Perseverance means the willingness and the ability to survive in a certain effort to do the right thing. Because of

that, perseverance is very important for many long term financial activities such as saving for the future or paying debt. Openness to problem solving which includes the ability to handle a lot of information and to solve complex problems is an important factor for young adults. It brings opportunity for them to cultivate the knowledge to make more complicated financial decisions in the future. Openness to problem solving is also related to financial literacy performance in many countries.

3. METHOD

This research used research and development (R&D) approach, with a combination of qualitative and quantitative researches using mixed research method on a case. Mixed Methods approach is one approach that tends to be based on the paradigm of pragmatic knowledge (such as consequence of consequences, problem orientation, and pluralism). This approach uses a research strategy that involves collecting data both simultaneously and sequentially to understand the research problem as well as possible (Gusnardi et al., 2016). The use of this method is one type of pragmatic research that offers a way to test theories and validate practices that are continuously carried out essentially through non-challenging traditions. A way to establish new procedures, techniques, and equipment based on a methodical analysis of specific cases. The Mixed Methods approach is also referred to as combined research. Combined research is a procedure for data collection, data analysis, with the combined use of sequential quantitative and qualitative methods or vice versa, in gaining a deeper understanding of the main problems. Action-oriented using both quantitative methods and qualitative methods in the process of carrying out the same research. It employed descriptive-exploring methodology to identify various symptoms and root of problems by taking place in all state senior high schools in Medan city. This research used primary data collected by distributing questionnaire to respondents who were the senior high school students in Medan city. The collected data then were analyzed using SPSS application. This research used quota sampling by having 5% of the population of senior high school students in state senior high schools in Medan city. This sampling activities started from approaching the principal of each state senior high school (State Senior High School 1 until State Senior High School 21) to randomly invited 10 first graders students from each schools as samples for this research. Due to certain circumstance, the attendance samples were 73 first graders of senior high school students had come to filled out the questionnaire at University of Sumatera Utara, Indonesia.

3.1. Characteristics of Respondents

Table 1. Characteristics of Respondents

	Characteristic	N(%)
Age	14-15	98.0
	15-16	2.0
Gender	Male	37.0
	Female	63.0
Father's Occupation	Entrepreneur	50.7
	Public Corporation	20.5
	Civil Servant	15.1
	Professional	5.5
	Military	8.2
Mother's Occupation	Entrepreneur	46.6

	Public Corporation	6.8
	Civil Servant	23.3
	Professional	4.1
	Military	19.2
Father's Education	Elementary	4.1
	Junior High	8.2
	Senior High	43.8
	Bachelor	37.0
	Magister	6.8
Mother's Education	Elementary	4.1
	Junior High	6.8
	Senior High	38.4
	Bachelor	46.6
	Magister	4.1

Source: Author's Calculation (2016)

3.2. Operational Definition and Method of Measurement

This research employed one dependent variable which was Financial Literacy and 3 independent variables which were consisted of cultural possession, perseverance and openness to problem solving. The operational definitions of the research variables are:

Table 2. Variable Operationalization

Variable	Definition	Indicator	Scale
Cultural possession (X ₁)	A way of life consisting of behaviors, beliefs, values that develop and are owned by a group of people and are handed down from generation to generation	1. Religion	Likert
		2. Politic Systems	
		3. Customs	
		4. Languages	
		5. Tools	
		6. Clothing's	
		7. Building	
		8. Art	
Perseverance (X ₂)	Characteristics and in various situations they make their own decision	1. Rational thinking	Likert
		2. Behaviors	
		3. Psychological conditions	
Openness to problem solving (X ₃)	Ability to overcome so many information, understand everything quickly	1. Ignorance	Likert
		2. Passion	
		3. Information	
		4. Reading	
Financial Literacy (Y)	Financial knowledge and the financial ability	1. Ability level of an individual to understand financial information	Likert
		2. Use financial information to manage personal finance	

The questionnaire were adapted from several literatures especially from PISA 2012 where the design of the questionnaire was consisted of 5 likert scale points starting from (1) which is 'never' until (5) which is 'always' and were modified according to the condition of senior high school students in Medan city. The questionnaires regarding cultural possession, perseverance and openness to problem solving which were asked to the respondents will result in the information on their perception toward their own behaviors, for example, the way they face problems. The questions regarding solving problems including their ability to handle information, and understand everything quickly. There were

also questions on cultural background especially on reading culture. The combination of all those information can describe individual's behavior, which are then related to financial literacy that will lead to the achievement of a successful behavior in financial management.

4. RESULTS AND DISCUSSION

4.1. Determination Coefficient Test

The value of determination coefficient (R²) was employed to measure the magnitude of cultural possession (X₁), perseverance (X₂), and openness to problem solving (X₃) toward financial literacy (Y) among high school students in Medan city. The value of R Square which was acquired from the result of data processing can be seen from Table 1 below.

Table 3. Test Coefficient of Determination

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df 1	df 2	Sig. F Change
1	.354 ^a	.125	.087	.63703	.125	3,286	3	69	.026

Predictors: (Constant), openness to problem solving, perseverance, cultural possession

Sources: Data processed (2016).

The value of R in Table 1 is 0.354, which means that the relationship between independent variables and dependent variable is 35, 4%. That means there was close relationship. The value of adjusted R Square in Table 1 was 0.087. That means that 8.7% of independent variables influence the dependent variable. While the other 91.3% is influenced by other variables which are not explained in this research model.

4.2. Simultaneous Effect Test

The parameter signification indicator of R² coefficient is significant or cannot be tested using Fisher method statistic test apparatus (F test) with confident level by 95%. Testing criteria used is if F_{count} < F_{table}, thus H₀ will be accepted or H_a will be rejected, while if F_{count} > F_{table} thus H₀ will be rejected or H_a will be accepted. If significance level is below 0.05 thus H₀ will be rejected and H_a will be accepted. Based on Table 2, the result of F test is shown as the following:

Table 4. Simultaneous Test

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	4.000	3	1.333	3.286	.026 ^a
1 Residual	28.000	69	.406		
Total	32.000	72			

a. Dependent Variable: financial literacy

Predictors: (Constant), openness to problem solving, perseverance, cultural possession

Sources: Data processed (2016).

According to Table 2, the result of the value of F_{ount} is 3.286 While the value of F_{table} on confident level 95% (α = 0.05) is

2.73. That means that the value of $F_{count} > F_{table}$ ($3.286 > 2.311$) and the significance level is ($0.000 < 0.05$). That means that the independent variables which are cultural possession (X_1), perseverance (X_2), and openness to problem solving (X_3) together influence significantly financial literacy (Y) among high school students in Medan city. That means that together cultural possession, perseverance, and openness to problem solving determine significantly the improvement of financial literacy (Y) among high school students in Medan.

4.3. Partial Test

The partial test of this regression model can be seen in Table 3 below :

Table 5. Partial Test

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.946	.689		4.279	.000
cultural possession	-.259	.150	-.235	-1.721	.090
1Perseverance	.013	.123	.013	.110	.913
openness to problem solving	.468	.150	.402	3.122	.003

a. Dependent Variable: financial literacy

Sources: Data processed (2016).

According to Table 3, it is shown that:

1. The value of T count for cultural possession variable is $-1,721$ with significance value 0.090 which means bigger than 0.005 . That means that cultural possession variable negatively influence and is not significant to financial literacy.
2. The value of T count for perseverance variable is 0.013 with significance value 0.913 which means bigger than $0,005$. That means perseverance variable has positive influence and is not significant.
3. The value of T count for openness to problem solving variable is $0,468$ with significance value 0.003 which means smaller than 0.005 . That means that openness to problem solving variable has positive influence and is significant.

Based on Table 3, the equation of double linear in this research is:

$$Y = 2.946 - 0.259X_1 + 0.013X_2 + 0.468X_3 + e$$

The equation means:

1. If there were no cultural possession, perseverance, and openness to problem solving variables, thus student's financial literacy would be 2.946 .
2. If the value of cultural possession increased by 1 unit thus the value of financial literacy would decrease by 0.259
3. If the value of perseverance increased by 1 unit thus the value of financial literacy would increase by 0.013 .
4. If the value of openness to problem solving increased by 1 unit thus the value of financial literacy would decrease by $0,468$.

4.4. Discussion

Cultural possession negatively but not significant influences on financial literacy among senior high school students in Medan

city which is interesting. It matches empirical observation that generally students in Medan city read only entertainment materials without the effort to think deeper, such as story books or even comic books. In student's perception, reading activity is only to spend leisure time. The culture and even the education system do not encourage students to read literacy books. Consequently, when a student reads a more complicated book such as financial literacy, the student may not be able to understand new knowledge. There's also a circumstances where the student may not have interest to read at all. Historically, social construction of Indonesian people actually does not really encourage to read. Values and culture transfers are carried out through spoken ways; songs, storytelling, and chants and so on. In spite of the existence of ancient literary books, practically those books were not meant to be read, but to be presented in songs. That is proved from the language structures and the sentences which have to be in accordance of Javanese song rhythm (following rhyme schemes and number of phonemes schemes in a line). Moreover, ethics and moral values were often delivered through tales, storytelling, and advices given directly by the elders, not in the form of ethics encoded in written records. All things imply that culture transfer of Indonesian people is often carried out through spoken culture. This research is an academic contribution for study development regarding financial literacy among teenage students. According to the research results, it is reasonable to redesign education programs that focus on reading habit encouragement which relevant with financial literacy development among senior high school students in Medan city. When a person has grown into a teenager, that person has to have various skills to live. Since the globalism era, everyday life has become more complex including economy development which is in the relationship with technology development. That has led into the appearances of financial product, which then everybody has to have a skill for financial management. Every person has to have a well-thought arrangement. Individual behavior is constructed by influences from inside oneself and a good financial management environment. Each Individual needs to have knowledge of financial literacy and financial behavior wherever that individual is. An individual learns and absorbs anything from culture in his/her environment. In addition, there are psychology factors from an individual which are perseverance and openness to problem solving, which make a person has certain characteristics.

5. CONCLUSION

The research found that partially, openness to problem solving has significant positive influence on financial literacy among senior high school students in Medan city. This is consistent with the result of a research conducted by PISA 2012 that openness to problem solving is related to financial literacy, while perseverance has positive but not significant influence toward financial literacy among senior high school students in Medan city. This finding goes with a research carried out by VyVyan et al., (2014) which conclude that other psychological factors such as self-confidence, self-esteem, and self-belief affect financial capability. The cultural possession had negative effect but not significantly on the students' financial literacy. This result is slightly associated with the research conducted by Brown et al (2017) which concluded that culture differences affect the financial literacy. Based on the research findings, there are several suggestions that can be given:

1. The result of the study shows that there are psychological factors besides demographical factors which influence financial literacy. Therefore, it is very important for any authority/government/education institution/agency to make sure that any education program is not limited only to printed material or other form of media but also structured approach which has to be considered to change education method in order to improve senior high school students' financial literacy
2. The program development on financial literacy improvement has to consider factors that construct financial behavior such as cultural possession, perseverance and openness to problem solving and other psychological factors which are relevant with behavior development and not just to design financial literacy development program which focuses only to the literacy.
3. Next authors are suggested to add more other variables and to expand the research object.

The limitation of this research is to use a sample in a small scope and only use variables not using measurements using unobserved variables that can measure the effect on each indicator. The implication of this research is how the local government in the education office can incorporate a literacy financial based curriculum so that high school students can understand the essence of early literacy education.

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