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Moderating Influence of Gender on the Association Between Financial Attitude, Financial Behavior, Financial Knowledge, and Financial Literacy

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***Abstract*—The purpose of this study is to prove that financial attitude, financial behavior, financial knowledge of financial literacy. In addition, this study analyzes the role of gender as a moderating variable in the influence of financial attitude, financial behavior, financial knowledge on financial literacy. The sampling method used is non-probability with research subjects being individuals. The number of respondents gathered was 417 people. Data collection techniques online and offline. Online through a link from Google Form, while offline data is directly taken from respondents. The instrument used in the form of a questionnaire that has been done by face validity by financial practitioners, namely financial planners. The period of collecting data for three months is May-July 2019. Data were analyzed inferentially with Structural Equation Modeling (SEM). This study found that there was a significant positive effect between financial attitude, financial behavior, financial knowledge on financial literacy. The role of gender moderation only strengthens financial knowledge and financial literacy. Gender is not a moderation between financal attitude and financial behavior towards financial literacy. The finding implies that gender does not moderate for financial knowledge and financial literacy. It means that everyone regardless of sex is important to have financial knowledge that will support financial literacy.**

Keywords*: *financial attitude, financial behavior, financial knowledge, financial literacy, gender

I. INTRODUCTION

Personal Financial Management is an important part of the scientific family of Financial Behavior Theory discussed [1]. One of the financial behaviors discussed is financial literacy which is a topic in financial planning. Referring to the Indonesian Financial Planning Standards Board (FPSBI) module financial planning is a process of achieving one's life goals through integrated and planned financial management [2]. The focus of attention in financial planning is a process in which a person has the ability to manage personal finances that ultimately reach the goal of old age life comfortably and happily. The financial planning process starts from financial literacy which until today has become an important focus by the Financial Services Authority (OJK) as set out in the National Strategic Plan for Indonesian Financial Literacy or SNLKI which has been revised in 2017.

The phenomenon of financial literacy published by OJK with an index figure that is quite surprising. The results of a survey conducted by OJK with 34 provinces in Indonesia amounted to only 21.84% for the 2013 index data. Furthermore, OJK conducted a financial literacy survey again and increased to 29.66%. However, this increase did not show a good enough figure because for three years the increase was still below 50%. The literacy index in 2016 of 30% can be interpreted that as many as 100 Indonesians only understand the financial planning process of 30 people, meaning that 70% of Indonesian people must be educated about financial planning.

Previous studies discussing various dimensions of financial literacy can be observed from [3] consisting of financial attitude, financial behavior and financial knowledge. Some further research with the dimension of financial literacy began to be developed with various data analysis methods. As in [4] with research objects in Jakarta with individual analysis units already working, the method used with the Structural Equation Modeling (SEM) technique was found that financial knowledge has a significant effect on financial behavior. The findings [5] with an analysis unit of 394 women working in India, found that financial attitude and financial behavior had a dominant influence on financial literacy compared to financial knowledge.

The effect of risk perception moderation in the relationship of financial knowledge and financial literacy is found in research [6]. The unit of analysis for 378 investors using a questionnaire found that risk perception was a moderation in the relationship of financial literacy and financial knowledge.

Gender as moderation in research on financial literacy is carried out by [7, 8, 9]. [7] examines the relationship between financial satisfaction and financial literacy by using gender as a moderating variable. The findings of research [7] gender as a moderation for financial behavior while gender does not moderate financial knowledge. Research [7] with an analysis unit of 900 respondents in Croatia. Gender as a moderation for research in Indonesia was carried out by

[8] with a sample of 274 in 2014 class respondent students at Semarang State University. The findings [8] financial education of male students as a moderation to financial literacy. Research [9] on the effects of moderation for 63,374 individuals in the United States based on a survey from the National Financial Capability Study (NFCS) found that gender as a moderation that weakens financial satisfaction.

Based on the description above the motivation of this study is to empirically prove the influence of financial attitude, financial behavior, financial knowledge of financial literacy. This study also aims to empirically prove the role of gender as moderation in the influence of financial attitude, financial behavior, financial knowledge of financial literacy.

II. LITERATURE REVIEW

A. *Financial Attitude*

Financial attitude is interpreted as psychological characteristics found in a person in interpreting everything in his life that is related to financial problems. Financial attitude is reflected in an open attitude towards information, assessing the importance of managing finances, not being impulsive in consumption, future orientation and responsibility [10]. The attitude of managing money becomes an important part in financial planning to achieve financial goals. OJK as a regulator has explained that financial knowledge alone is not enough. But there must be changes in attitudes and behavior related to financial problems. Attitude and behavior aspects are two conditions that must be considered in a person's financial behavior. The importance of financial attitudes considered shows that financial literacy that relies solely on the knowledge approach cannot change a person's behavior if he does not have the appropriate attitude and motivation. This is because the financial attitude can encourage someone to determine both short-term and long-term financial goals so that having financial planning as an effort towards financial satisfaction and prosperity [11]. The proposed hypotheses are:

H_1 = Financial attitude is positively associated with financial literacy

B. *Financial Behavior*

Financial behavior reflects a person's ability to set financial goals, formulate financial planning, manage finances and be able to determine quality financial decisions in using financial products and services [11]. According to [2] someone who is able to compile financial planning includes five dimensions, namely emergency funds, saving ability, managing debt (debt planning), asset diversification, retirement planning, understanding taxes (tax planning) and wealth distribution (estate planning). Financial behavior is very important for every individual. Since the financial crisis in 2008, studies of financial knowledge especially on its components such as attitudes and behavior have received a lot of attention. Social scientists have recognized it effectively by predicting financial and economic processes depending on how we can understand people's attitudes and behavior towards finance, as well as the characteristics of various social groups who share the same views and behaviors [12]. Thus, examining the financial behavior of young adults is an interesting and important research topic that deserves to be examined from various aspects [12] because young adults face important difficulties and must handle sophisticated financial decisions at each stage of the life cycle. Based on the description above, the hypothesis proposed is:

H_2 = Financial behaviour is positively associated with financial literacy

C. *Financial Knowledge*

Financial knowledge in the context of financial literacy is the ability of individuals to understand budgeting, savings, loans and investments [13]. According to Jumpstart Coalition shares financial knowledge on the topics of income, money management, savings and investment, and loans or credit while [14] covers banking, deposits, credit, insurance, and taxes. [15] measure financial knowledge about counting (interest), compound interest, inflation and risk diversification. Some other knowledge can be seen from information that has been published by companies engaged in the financial sector such as banks, insurance, pension funds, financial institutions, pawnshops and capital markets. Financial knowledge should be owned by someone as early as possible. Sources of financial knowledge start from school so that financial awareness will be faster to be applied. [16] observed that individuals who have financial knowledge are more financially literate and they are able to handle money efficiently.

Financial knowledge possessed by a person is then developed into financial skills, where financial skills themselves are defined as the ability to apply the financial knowledge they have in their daily lives [17]. Financial skills enable one to be able to make rational and effective decisions related to financial and economic sources [18]. [12] defines financial literacy as an individual's ability to use his knowledge and skills to make appropriate financial decisions for effective management of financial resources. Someone with higher financial knowledge and a professional who works shows the effects of lower tendencies. Financial knowledge has a strong influence on financial attitudes and behavior. This study also identifies that financial knowledge is an important factor for determining financial literacy and financial decision-making skills of a person [19]. Based on the description above, the next hypothesis:

H_3 = Financial knowledge is positively associated with financial literacy
H_4 = Gender as moderation effect financial attitude on financial literacy
H_5 = Gender as moderation effect financial behavior on financial literacy
H_6 = Gender as moderation effect financial knowledge on financial literacy

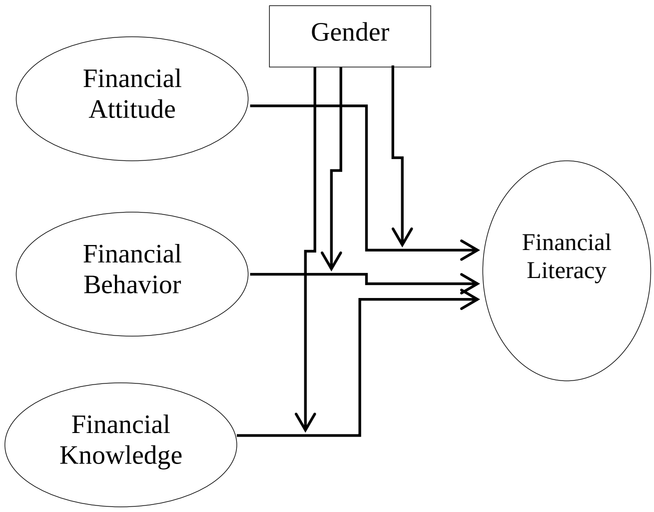

Figure 1. Research Hypothesis

III. METHOD

This study uses individual analysis units. The research population is the city of Palembang. The number of respondents using the non-probability sampling method was 417 respondents. The data collection period is three months, April-June 2019. Online and offline data collection methods. The online method using the Google form is distributed via the link while the offline questionnaire is distributed directly to respondents.

The operational definition of financial attitude, financial behavior and financial behavior variables on financial literacy refers to [5], [13]. The concept or theory of financial attitude is a person's attitude in managing finances owned [3]. This variable is measured by six reflective indicators namely fear and worry, economical and economical, comfortable, easy and fast, having debt and emotional attachment. Measurement of financial attitude variables with 5 Likert scales, namely score 1 for very unimportant and score 5 for respondent opinion is very important.

Furthermore, exogenous financial behavior variables are reflected in individual behavior in activities to spend money [5]. This behavior is reflected in eight indicators namely saving and saving activities at the beginning of the month, making a budget, surveying prices, paying bills, saving receipts, paying off and emergency funds. All indicators are reflective with ordinal data types based on a 5 Likert rating scale ie score 1 for perception never up to score 5 for perception always. Financial knowledge refers to [5], which is someone's knowledge about finance. Indicators are reflective measured by a 5 Likert rating scale, namely a score of 1 for very poor understanding and a score of 5 for very well understood. This variable is measured by five indicators that refer to [13] namely knowledge of banking, investment, insurance, capital markets and pension funds.

Endogenous variables are financial literacy. The operational definition of this variable refers to [11], which is a set of attitudes and behaviors of financial management to improve the quality of decision making and personal financial management towards financial well-being. Measurement of this variable with 5 reflective indicators namely financial planning, investment, using financial products and services, confident in the products and services used, has a change in attitude and motivation. Measurement of data with a likert scale rating 5 ie score 1 for perception is not very important and score 5 for perception is very important. The moderating variable is gender where the value is 1 for men and the value is 2 for women. Gender placement as moderation is based on research [7], [20].

Data analysis using descriptive and inferential statistics. Inferential testing uses Structural Equation Modeling (SEM) with variant-based SmartPLS Ver 3 software. The reason for processing data using PLS is because it involves latent variables, a tiered structural model and the direction of the relationship are recursive. SEM in this study uses SmartPLS software. A combination of several software analysis tools will be used, namely MS-Excell, SPSS and SmartPLS. Processing starts from testing the research instrument in the form of a questionnaire by testing the validity and reliability. Testing validity in PLS is based on convergent validity, discriminant validity and Average Variance Extracted (AVE). Reliability testing is based on the Composite Reliability and Cronbach’s Alpha results of each parameter.

Outer model test is used to see indicators of latent variables in research. All indicators of latent variables are reflective, which means a reflection of each variable. Provisions on whether an indicator is a reflection of each variable based on loading factor. If the result of loading factor> 0.7 then the indicator is a reflection of the variable but if the result of loading factor ranging from 0.50 to 0.60 is considered sufficient [21]. Then the model test is done by checking the goodness of fit inner model. The check is based on the total determination value (Q2) by calculating the R2 value of each equation. The effect of gender moderation shows the interaction between each variable so that it can be found the role of gender in the relationship between financial attitude, financial behavior, financial knowledge and financial literacy.

IV. RESULT AND DISCUSSION

Respondents’ Profile

The total respondents were 417 people with non probability sampling techniques from the people of Palembang, South Sumatra, Indonesia. The majority of respondents were women (61.4%) and the rest were male respondents (38.7%). More than 50% of respondents aged 10-34 years and as many as 22% aged over 55 years. Nearly 50% of respondents graduated from high school and university from D3 to college. Respondents who participated in this study were married 49.2% or as many as 210 people and some were unmarried 49.6% as many as 207 people. Based on the respondent group, as much as 50.9% are the professional and employee groups while the monthly income is above Rp1,750,000 (71%). Profile of respondents can be seen in Table 1.

Table 1. Respondents' Profile

Variable		Frequency	Percent
Gender	Male	161	38,7
	Female	256	61,4
Age	10 – 24	163	39,1
	25 – 34	83	19,1
	35 – 44	68	16,3
	45 – 54	11	2,6
	>55	92	22,1
Education	Elementery School	2	5
	Junior High School	3	7
	Senior High School	205	49,2
	University	207	49,6
Marital Status	Married	210	50,4
	Un Married	207	49,6
Respondents Group	Student/Collegen	126	30,2
	Professional	98	23,5
	Employe	156	37,4
	Retirement	18	4,3
	SME	19	4,6
Income for month (IDR)	<400.000	52	12,5
	400.000 – 600.000	27	6,5
	600.001 – 1.250.000	26	6,2
	1.250.001 – 1.750.000	16	3,8
	>1.750.000	296	71,0

Source: from primary data, 2019

Testing of outer loading, validity and reliability is shown in Table 2. Loading factor is a test of the Confirmatory Factor Analysis (CFA) of each indicator as a reflection of latent variables. As can be seen in Table 2 several indicators in measuring latent variables are found to be less than 5% so dropping is done. Financial attitude variable is measured by six latent indicators namely fa1-fa6. There are three indicators found a loading factor value <0.5 so that it is dropped. Financial behavior variables are measured by eight indicators. Based on the outer loading value there are 3 five indicators less than 0.5, namely fb3-fb7. Financial knowledge is measured by five indicators and all indicators have a loading factor value> 0.5 so that this variable is not dropped. The financial literacy variable is reflected in five indicators and there is one indicator which is fl5 dropped because the loading factor value <0.5.

Test the validity and reliability seen from the value of Cronbach Alpha, Construct Reliability (CR) and Convergent Validity. The test results show that the consistency of respondents' answers for all variables is stated to be reliable. Likewise with validity seen in AVE values above 0.5.

Table 2. Measurement Model Assessment

Variables	Indicators	Loading	Cronbach Alpha	CR	AVE	Convergent Validity (Ave>0,5)
Financial Attitude	fa2	0,687	0,536	0,762	0,517	Valid
	fa4	0,780				
	fa6	0,686				
Financial Behavior	fb1	0,770	0,708	0,818	0,601	Valid
	fb2	0,712				
	fb8	0,839				
Financial Knowledge	fk1	0,720	0,787	0,854	0,539	Valid
	fk2	0,811				
	fk3	0,730				
	fk4	0,711				
	fk5	0,694				
Financial Literacy	fl1	0,604	0,669	0,802	0,505	Valid
	fl2	0,722				
	fl3	0,754				
	fl4	0,752				
Gender		1,000	1,000	1,000	1,000	Valid
	Kriteria: CR>0,7; AVE >0,5					
	R_1^2= 0,373 R_2^2 = 0,387					
	NFI = 0,542					

Source: from primary data, 2019

HTMT criteria are used to assess discriminant validity as in Table 3. The correlation value between variables based on HTMT criteria is between 0.85 or 0.9. As can be seen in Table 3 all variables are declared valid.

Table 3. HTMT Criterion

	FA	FB	FK	FL	G
FA	-				
FB	0,503	-			
FK	0,357	0,613	-		
FL	0,478	0,472	0,800	-	
GENDER	0,072	0,022	0,163	0,079	-

Source: from primary data, 2019
Criteria: Discriminant validity is established at HTMT0.85/HTMT0.90

The structural model test results are evaluated with R^2 and the total determination coefficient (Q^2). Table 2 explains that the first equation is the direct effect of financial attitude, financial behavior, financial knowledge, gender on financial literacy obtains R12 = 0.373 and the influence of the existence of gender interaction * financial attitude, gender * financial behavior, gender * financial knowledge on financial literacy obtained R22 = 0.387 then the total predicted value of 0.86 or 85%. The structural equation model of this research is high enough to predict variations in financial literacy.

Table 4. Hypothesis Results

Predictor	Beta	T value	P value	Decision
FA ➔ FL	0,138	2,790	0,005	Significant
FB ➔ FL	0,072	1,710	0,088	Significant
FK ➔ FL	0,528	11,390	0,000	Significant
Gender ➔ FL	-0,005	0,114	0,910	Not Significant
Gender*FA ➔FL	-0,004	0,079	0,937	Not Significant
Gender*FB ➔ FL	-0,017	0,379	0,705	Not Significant
Gender*FK ➔ FL	0,126	2,213	0,027	Significant

Source: from primary data, 2019

Based on Table 4 it is found that the better a person's FA the better the FL so that the first hypothesis is accepted. The direction of the coefficient is positive indicating one direction so that someone who has an attitude or behavior in managing finances will be more qualified in making decisions to manage personal finances. The FA variable based on Table 2 is reflected in the dominant indicator that respondents are able to manage finances easily and quickly, respondents are able to act economically as being frugal and respondents have an emotional attachment to managing finances they have. Based on Table 1, it appears that the dominant characteristics are respondents aged 10-24 years as many as 39% with the dominant marital status being married 50.4%, it can be concluded that these characteristics indicate the ability of respondents with very good behavior to make personal financial decisions.

The effect of FB on FL is significant at alpha 0.1. The findings show that the better a person's behavior in managing finances in terms of saving, saving is done at the beginning of the month consistently and having an emergency fund, the more literate the respondent will make personal financial decisions. Based on these findings, H2 was accepted. Furthermore, FK's direct effect on FL was found at alpha 5% so that this study was able to provide empirical evidence that the better a person's financial knowledge would be the more literate in making personal financial decisions. All direct effects were found to be significantly consistent with research [5]; [22]; [16].

The role of gender moderation in the influence of FA, FB and FK on FL found mixed results. Gender and FA interaction is not as a moderation for the influence of FA on FL as well as for FB on FL. This finding requires that the better a person's attitude is not seen from the sex to the more financial literate. The same thing, the better a person's behavior about financial understanding does not pay attention to gender. The findings do not moderate shows that between men and women it is important to draw up a personal financial plan. The results of gender and FK interactions with FL were found to be significant. This finding shows that knowledge based on sex can strengthen one's literate in making personal financial planning.

Gender as moderation is strengthening financial knowledge towards financial satisfaction supporting the results of research [9] with a sample of 63,374 people in the United States found that gender as moderation in personal financial management. Research in Indonesia with gender as moderation is carried out by [8] with the dependent variable being FL and gender as moderation. The findings [8] that gender interaction with family education strengthens one's influence in managing personal finances with research subjects on 868 students. Another study with 900 research objects in Croasia with different gender-based testing techniques was carried out by [7]. Findings [7] that the interaction of FA with gender as a reinforcing factor between FA and Financial satisfaction but the interaction between gender and FK and FB was found to be insignificant.

V. CONCLUSION AND SUGGESTION

Some important conclusions in this research are that financial attitude, financial behavior, financial knowledge can contribute positively to financial literacy. The findings for gender as moderation are only found in financial knowledge on financial literacy while gender is not as a moderation of the influence of financial attitude, financial behavior on financial literacy. Future research agendas can add marital status as gender because financial planning for a single parent will be very different in managing finances.

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