



## FINANCIAL LITERACY AND PERSONAL FINANCIAL MANAGEMENT ASSESSMENT AMONG STUDENTS IN BORDER AREA OF INDONESIA-TIMOR LESTE

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### ABSTRACT

*Financial literacy has become a global trend and the need for individuals to take responsibility for their finances. Still, financial literacy and financial management have not yet become a course in some universities, especially Timor University, which lies in the border area of Indonesia-Timor Leste (BAITL). Economic literacy and student financial management levels need to be analyzed because they relate to expenditure, income, credit, savings, and investments. This study aimed to evaluate financial literacy level and personal financial management level among college students in BAITL. This research includes quantitative descriptive analysis. Data was collected using a questionnaire from 165 undergraduate college students in the mathematics education department of a public university in East Nusa Tenggara (NTT), Indonesia. The results showed that the total average level of student financial literacy (SFL) was 67.48%. The comprehensive middle student personal finance management (SPFM) is 57.34%. These results were significant at a degree of freedom of 163 and Alpha 5% of the t-test results. From the study results, it can conclude that the personal financial management of students of mathematics education is still low. The level of financial literacy of students in the border area includes less literate.*

**Keywords:** *Financial literacy, personal financial management, linear Regression.*

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## INTRODUCTION

The rapid advancement of information and technology is causing new knowledge to spread quickly and be accessible to anyone who needs it. The role of teachers who have been the only provider of science has shifted away from it. The part and presence of teachers in the classroom will be increasingly challenging and require very high creativity in the present and future. Globalization is a tough challenge for teachers and teachers. Quoting from Jack Ma at the annual meeting of the World Economic Forum 2018, education is the great challenge of the century. If we don't change the way we educate and teach, we will have great difficulties in the next 30 years. Education and learning loaded with knowledge override the charge of attitudes and skills as currently implemented, producing learners who cannot compete with machines. The dominance of expertise in education and learning must be changed so that later young people can rival machine intelligence while being wise. Financial literacy is vital as capital to build an easy generation (Brau, et al., 2019).

Financial literacy and financial management are basic skills that the younger generation must possess because they relate to spending, credit, savings, and investments (Ismaulina & Suryani, 2019). Analyzing students' financial literacy and management levels is the first step to supporting skills and knowledge to achieve a more prosperous life in the future. Financial literacy affects saving behaviour (Ubaidillah & Asandimitra; Sholeh; Sugiharti & Maula 2019). Some other reasons how critical financial literacy is that financial literacy affects the use of banking products (Lestari, 2019), significantly affects student behaviour in managing finances. (Rahmadhani & Yunita, 2020).

Based on the description, research is essential to measure students' level of financial literacy, especially in making decisions related to daily activities, such as saving or investing (Sundarasen, et al. 2016). In addition to benefiting the individual himself, financial literacy is also beneficial for the sustainability of a country's economic system.

## METHODOLOGY

It will be explained in this section the stages in the implementation of research. The first stage is the preparation of questionnaires (questionnaires) of financial literacy and personal financial management, and personal financial management. Next, determine population, sample, and sampling techniques. The people in this study was a Student of Mathematics Education Study Program of the University of Timor, which amounted to 485 people. While the research sample is 165 students of the mathematics education study program from semester 1 to semester 9. The sample withdrawal technique used is randomly selected. The next stage is data collection, and namely google Forms disseminated through Whatsapp group (WAG) each student class of Timor University mathematics education study program, starting semester 1 to semester 7. Spread questionnaires (questionnaires) through the WAG containing a list of expression lists using the Likert scale, where the respondent chooses the answers provided. After 165 respondent data collected and have represented the population from each semester, proceed to the data analysis stage. Data is analyzed using descriptive statistics and linear regression tests (Margaretha, 2015). Before conducting analysis and interpretation, questionnaire data needs to test for validity and reliability. Test validity using formulas (Ghozali, 2015)

$$r_{xy} = \frac{n \sum x_i y_i - (\sum x_i)(\sum y_i)}{\sqrt{[n \sum x_i^2 - (\sum x_i)^2][n \sum y_i^2 - (\sum y_i)^2]}} \quad (1)$$

With  $r_{xy}$  : correlation coefficient  
 $x$  : The total answer value of each respondent

$y$  : total of the respondent's answers  
 $\sum x$  : number of item scores  
 $\sum y$  : total score amount  
 $n$  : Number of samples

Testing uses two sides with a degree of the sign with the test criteria. If then the instruments used is valid and if then the tools used are invalid. While the reliability test used Cronbach's Alpha (CA) formula,

$$r_{11} = \left[ \frac{k}{k-1} \right] \left[ 1 - \frac{\sum a_b^2}{a_t^2} \right] \quad (2)$$

With  $r_{11}$  : reliability instrument  
 $k$  : Number of statements  
 $a_b^2$  : total of the variants of each statement  
 $a_t^2$  : variant of total score

The reliability level of a research instrument is acceptable when in the CA range of more than 0.6 to 0.8 is considered excellent or reliable, and in the CA range of more than 0.8 to 1 is considered very good or highly trustworthy.

Next is the data analyzed using descriptive statistics to look at SFL and SPFM levels. The next stage is the result of analysis consulted with the criteria of financial literacy according to Chen and

Volpe (1998). Category of financial literacy level =  $\frac{\text{Number of answers}}{\text{Number of respondents}} \times 100\%$  (3)

There are three categories of Financial literacy criteria (Titko, et al., 2015)

1. High, if the literacy rate exceeds 79%
2. Menengah, if the literacy rate is between 60% and 79%
3. Low, if the literacy rate is less than 60%

The next stage is to model simple linear Regression using formulas (Sugiyono, 2009),

$$y = \alpha + \beta x \quad (4)$$

With

$y$  : level of financial literacy of students of Mathematics education study program

$x$  : Student personal finance management

$\alpha$  : constant

$\beta$  : regression coefficient

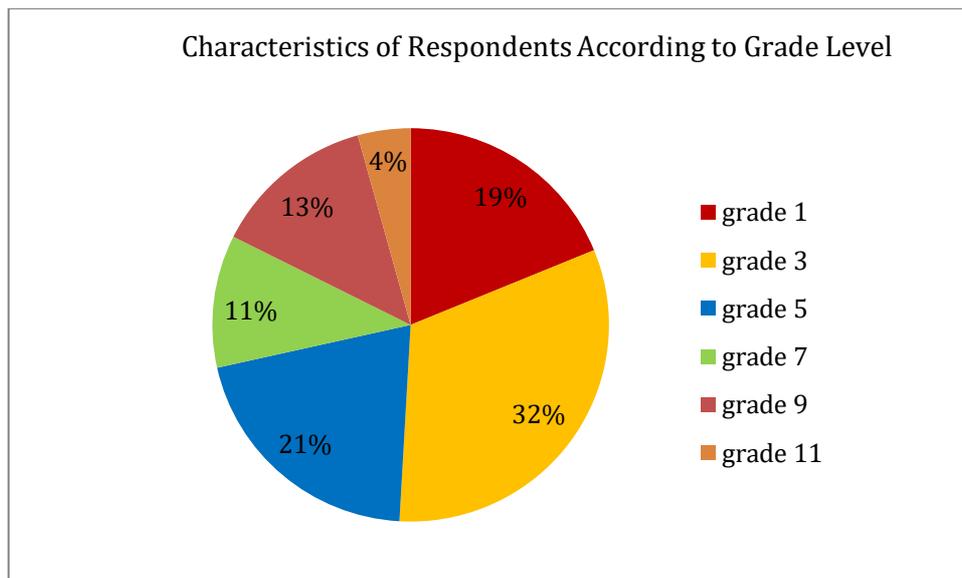
The last stage is to made conclusions.

## **RESULT AND DISCUSSION**

### **Representation Respondent**

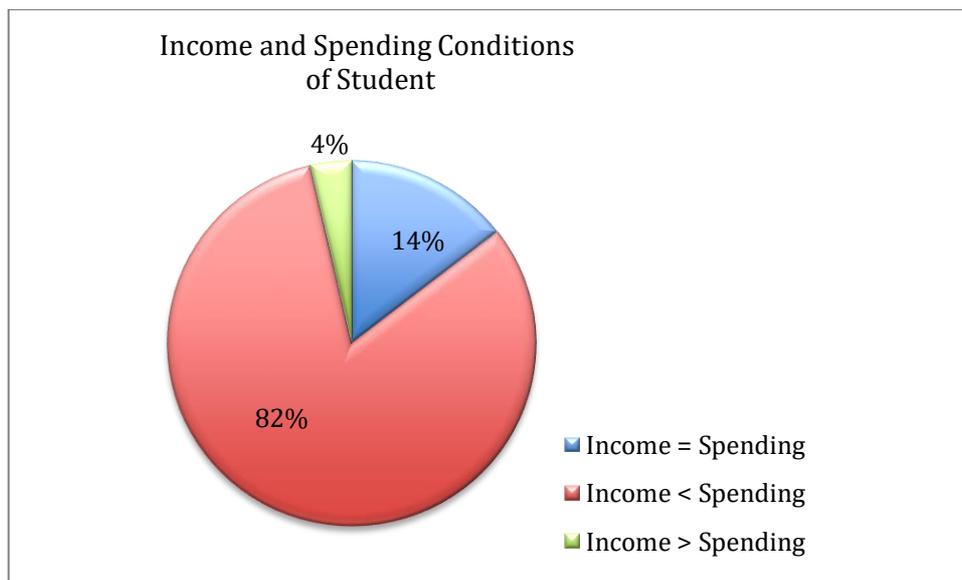
The study was conducted on October 2021. The number of students of the Mathematics Education Study Program of the Faculty of Education, the University of Timor, as respondents or samples of this study is 165 people. It consists of 70% females and 30% males. Student finance sources comprise 91.7% of parents and 8.3% of scholarships.

The description of respondent data by force is like pie chart 1,

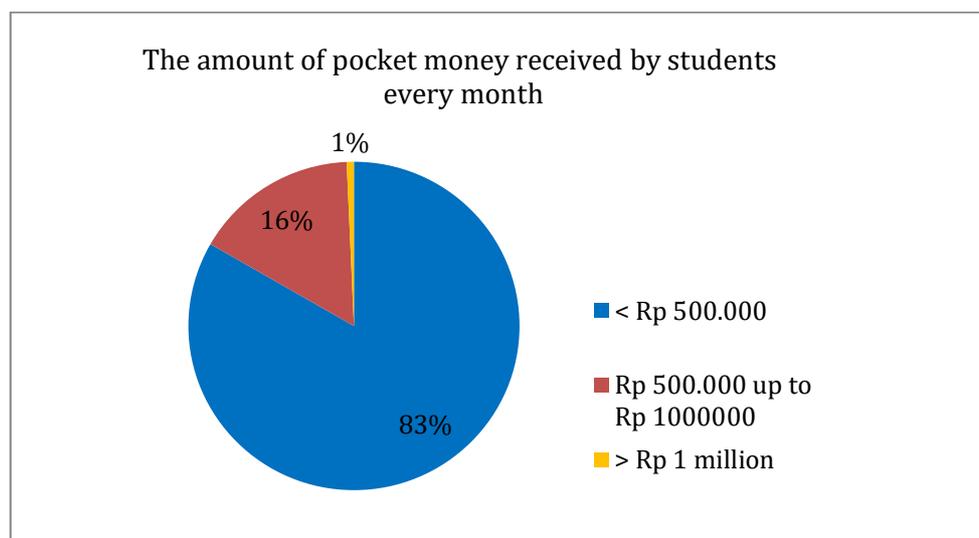


**Pie Chart 1. Characteristics of Respondents According to Grade Level**

Students' pocket money consists of 20.8% receiving 500.000 IDR to 1 million IDR and 79.2% receiving less than 500.000 IDR.



**Pie Chart 2. Income Conditions with Student Expenses**



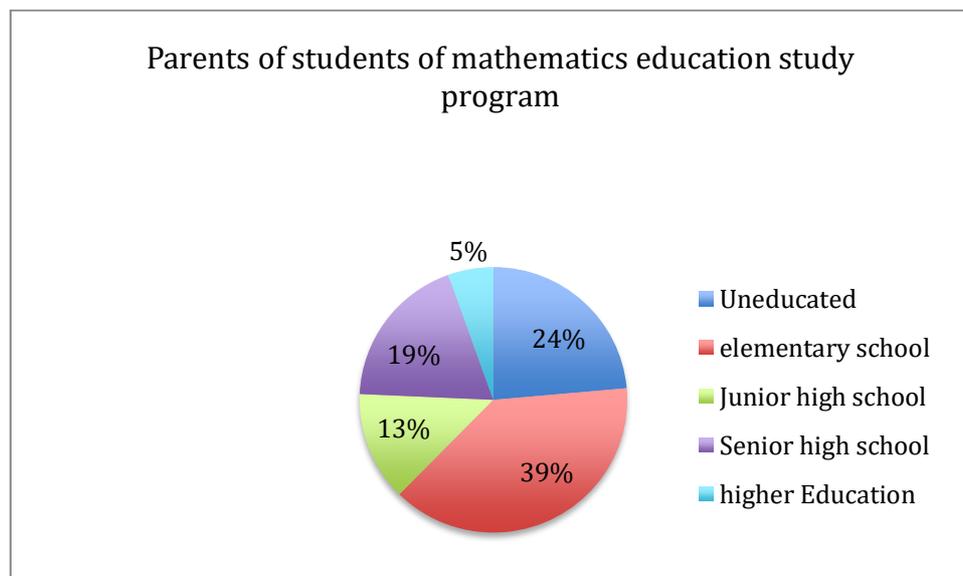
**Pie Chart 3. Amount of pocket money per student month**

Most students of mathematics education study programs have a greater income-expenditure as seen on pie chart 2. Their most significant expense is the cost of living because it is a need that they must meet. Students quickly spend money, when 83% of students get a remittance of 500,000 IDR from parents (Pie chart 3), but when nearing the end of the month, the pocket money supply runs out, While 16% of students who receive an allowance between 500,000 IDR to 1,000,000 IDR feel enough to receive the next shipment. Only 1% of students receive funding above 1,000,000 IDR. students income is in line with Pie chart 2 that only 14% of students have the same income as spending, 4% of students who have income higher than spending, and 82% of students who have payments smaller than spending. Students who have a more significant amount of expenditure than income, their financial management is still lacking, and more understanding of their financial literacy and personal financial management. And students who have the same income as expenses have good financial management, but it has not been said to be perfect because their money is depleted and no savings are left. Then, their financial management is suitable for students who have smaller expenses than their income. From the brand's income to costs, there are still residuals that can be saved and used as unexpected funds. (Natalia, et al, 2019)

From the data above, it how common the knowledge of student financial literacy is. Students as a young generation should know about personal finance early on because the knowledge will help students manage their finances in the future (Ismulina & Suryani, 2019).

### **Parental Data**

The age of the student's parents varies from 35 years to 59 years old. 12.5% of the student's parents live in the city, and 87.5% live in the village. While parents' education in pie chart 3, 29.2%, not school (not finished elementary school), 33.3% graduated elementary school, 16.7% graduated junior high school, and 20.8% graduated high school.



**Pie Chart 4. Parents of students**

Parental income per month, 75% less than 1 Million IDR and 25% between 1 million IDR to 3 million IDR. Parental expenditure per month, 8.3% more than 1,750,000 IDR, 20.8% receive 1,250,000 IDR to 1,750,000 IDR, 16.7% 600,000 IDR to 1,250,000 IDR, 25% 400,000 IDR to 600,000 IDR, 29.2% < 400,000 IDR. Parental income has an influence on students' financial literacy (Margaretha & Pambudhi; 2015).

### SFL and SPFM Level Analysis

The analysis section of the financial literacy level, as seen in Table 1, presented several aspects such as Basic Knowledge of Personal Finance, Knowledge of Savings And Investments, Skills using Financial Services Products, Knowledge of Money Management, and Beliefs about Finance. Several questions or statements represent each aspect according to the purpose and emphasis that you want to measure. In this study, many emphasized the level of confidence or the way students view finance that they wish to explore. Fifteen statements or questions for beliefs about money adopted from the financial revolution (Waringin, 2012).

**Table 1  
Result of Financial Literacy Assessment**

Aspects	Levels of financial literacy (%)	Category
Basic Knowledge of Personal Finance	62,95	Intermediate
Knowledge of Savings and Investments	79,20	Tall
Skills to Use Financial Services Products	63,775	Intermediate
Knowledge of Money Management	80,475	Tall
Beliefs about finance	51,00	Low
<b>Average Total</b>	<b>67,48</b>	<b>Intermediate</b>

Sources: Author's processed data, 2021

Table 1 shows that the total average level of student financial literacy is 67.48% and is in the moderate category (Ismaulina & Suryani, 2019; Sandria, Siswoyo, & Basri, 2021). The level of student financial literacy in the category is less because most students have not taken financial mathematics courses. In addition, it is related to the social and economic conditions of the elderly. The level of parental education reinforces this in pie chart 3. There are 62.5% of parents not in school and only graduated from elementary school. As a result, students have difficulty getting information about financial knowledge from parents. Overall, students' financial literacy levels were in the lesser category. But specifically on Knowledge About Savings and Investments and Knowledge About Money Management, he bags 79%, which belongs to high literacy. The results of Gunardi, Ridwan and Sukardjah (2017) showed that the level of financial literacy of students was in a low category. The lowest aspect of student literacy is the confidence level about money, which is 51%. Student blueprint money about money is still wrong. The way of looking must straighten at cash.

### **Student Personal Financial Management**

The analysis section of the Student Personal Financial Management level, as seen in Table 2, presented several aspects such as Financial Planning, Saving, Financial Use, and Record-Keeping. A question or statement represents each aspect according to the purpose and emphasis you want to measure using the Likert scale.

**Table 2**  
**Result of Personal Financial Management Assessment**

<b>Aspects</b>	<b>Level of Personal Financial Management (%)</b>	<b>Category</b>
Financial Planning	53,725	Less
saving	59,40	Less
Use of Finance	58,65	Less
Recording	57,60	Less

Sources: Author's processed data, 2021

Based on data in table 3 that the total average personal financial management of students of the University of Timor's mathematics education study program is 57.34%. The results showed that the personal financial management of students belonged to the category of less. The average personal financial management means that students do not have the capital in managing their finances (Yates & Ward, 2011). SPFM level is in a low category because students have also not taken financial Mathematics Courses.

In addition, the income source and the amount of allowance received every month is 500,000 IDR by 83% of students. They received low income because the majority of the jobs of student parents are farmers, and 86.1% and live in rural areas that are left behind. It also causes 82% of students to have less income than expenses, as in pie chart 2.

As a result, 83% of parents have no child's educational savings or no unexpected expenses. This situation shows that students and parents are both lacking in terms of financial planning. So the SPFM level falls into the category less because students will receive less financial education (Halilovic, et al., 2019). In addition, because of their first freshman, they manage finances independently without the full supervision of their parents. (Qomaro & Septiana,2017). Financial problems that also often arise in students are that they do not have income, some of the students still depend on their parents. (Ismaulina, et al. 2019).

Students who have an income below 500,000 IDR have a low level of financial management due to the lack of money they get to meet their needs, so management, financial planning, storage, use, and financial record keeping are still low.

The level of financial management of students who have an income of pocket money from parents between 500,000 IDR to 1,000,000IDR has a slightly better level of student financial management than students who have a revenue of < 500.000 IDR because income is enough to meet the needs of student life. As a result, students still have savings in terms of storage, and planning use and recording are still better than students who have an income of < 5,00,000 IDR. The level of financial management of students who have income above 1,000,000 IDR is in a low category. If we look at and compare with the results of student financial management who have income between 500,000-1,000,000 IDR, it is still better than students who have income between 500,000-1,000,000 IDR than those who have incomes >1,000,000.

So we can conclude that students who already have an income of pocket money above 1,000,000 IDR tend to be wasteful. In general, students are not used to managing personal finances without the supervision of parents. Most students also can not delay the pleasure. When receiving money, they immediately spend without paying some for unexpected costs. The results of this study are in line with the results of the investigation. After knowing the level of SFL and SPFM Mathematics Education Study Program of the University of Timor, it will then be seen the effect of SFL on SPFM.

### **The Effect of SFL on SPFM**

The effect of SFL on SPFM is analyzed using simple linear regression analysis. With stages, Reliability and intrusion tests, Scale data conversion to interval data using successive interval methods, normality tests, determination coefficients, linear regression model estimation, and statistical tests.

#### **1. Reliability And Validity Test**

Reliability test using equation (1) and SPSS26 output obtained results as in table 3 below.

**Table 3**  
**Output SPSS26 of Correlations between SFL and SPFM**  
**Correlations**

		SFM	SPFM
SFM	Pearson Correlation	1	.594**
	Sig. (2-tailed)		.000
	N	165	165
SPFM	Pearson Correlation	.594**	1
	Sig. (2-tailed)	.000	
	N	165	165

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Based on sig value. (2-tailed) at the SPSS26 output, sig value. (2-tailed) of financial literacy  $0.000 < 0.05$ . meaning there is a correlation between SFM and SPFM. Known value of r calculated in equation 1 (Pearson Correlation), r calculate  $(0.594) > r$  table  $(0.012114)$ , then there is a correlation between SFM and SPFM. Because the r count is marked positive, then the relationship between the two variables is positive. In other words, the increasing SFM then the increasing SPFM. It's based on an asterisk (\*). From the SPSS output Table 3 above, each of the variables

linked has two asterisks (\*\*), which means there is a correlation between SFM and SPFM with a significance level of 1%.

2. Normality test

**Table 4**  
**Ouput SPSS26 of Normality test**  
**One-Sample Kolmogorov-Smirnov Test**

		Unstandardized Residual
N		165
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	4.98085352
Most Extreme Differences	Absolute	.050
	Positive	.047
	Negative	-.050
Test Statistic		.050
Asymp. Sig. (2-tailed)		.200 <sup>c,d</sup>

- a. Test distribution is Normal.
- b. Calculated from data.
- c. Lilliefors Significance Correction.
- d. This is a lower bound of the true significance.

Asymp. Sig. (2-tailed) value of 0.2 is more significant than 0.05. Sig. (2-tailed) value means that based on the Kolmogorov-Smirnov test in Table 4, the data is the normal distribution so that the normality requirements in the linear regression test are met.

**Statistic F-test**

The F test in the Regression model is performed to determine if the free variable affects the bound variable. In other languages, to find out whether it has a significant effect or not.

H<sub>0</sub>: The SFL variable has no significant effect on SPFM.

H<sub>1</sub>: The SFL variable has a significant effect on SPFM.

Generally, there are two ways to answer the simultaneous hypothesis: comparing Sig with Alpha Research or comparing F calculation with F Table.

**Table 5**  
**Ouput SPSS26 of ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2216.070	1	2216.070	88.781	.000 <sup>b</sup>
	Residual	4068.660	163	24.961		
	Total	6284.730	164			

- a. Dependent Variable: SPFM
- b. Predictors: (Constant), SFL

Sig (0.000) < alpha (0.005). It means reject H<sub>0</sub>. In other words, the SFL variable has a significant effect on SPFM.

**Table 6**  
**Ouput SPSS26 of Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant )	3.158	3.172		.996	.321	-3.105	9.421
	SFL	.338	.036	.594	9.422	.000	.267	.409

a. Dependent Variable: SPFM

#### 4. Statistic t-test

The t-test in Regression aims to determine the effect of free variables partially (alone) on bound variables. In this case, the T-test is the same as the F test. Sig < Alpha. Table 6 show that Sig. ( 0.321) less then (t) 0.996. Furthermore, Sig (0.000) less then 9.422 . t-table (df 163, alpha 5%) is 1.974624621 < t calculated (9,422). It means reject H<sub>0</sub>.

#### 5. Analysis of coefficient of determination

The Coefficient of Determination values of SPSS Linear Regression can be seen in the Summary Model Table, Column R or R Square as Table 7 follows:

**Table 7**  
**Ouput SPSS26 of Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.594 <sup>a</sup>	.353	.349	4.99611	1.755

a. Predictors: (Constant), SFL  
b. Dependent Variable: SPFM

Look at the Value in Column R, which is 0.594. This 0.594 means that the variation of all free variables can affect the change of Bound Variable by 0.594 (59.4%). Other variables outside the study influenced the remaining 40.6%. Based on F test results, SFL can affect SPFM by 59.4%. This result is significant at alpha 5% and degrees of freedom 163. From this F test, it has been known that there is a substantial influence between free and bound variables simultaneously. At the same time, the coefficient of determination to know what percentage of its effect.

#### 6. Estimated Linear Regression Model

The Linear Regression equation (3.4) shows each free variable's magnitude and direction of influence is found in the Beta value (β) or regression coefficient in Table 6 Ouput SPSS26 of Coefficients. In table 6, Constant alpha equal to 3.158 and coefficient SFL (β) equal to 0.338. so, the regression model is

$$SPFM = 3.158 + 0.338SFL \quad (5)$$

The α = 3,158 in equation (5). This α means that if the SFL is 0, SPFM 3,158. This result is significant at 5% alpha. And the value of β = 0.338 means that assuming the SFL is fixed, then any increase in SFL by 1 unit will increase the SPFM by 0.338. This result is significant in Alpha 5% of the results of the test t. Hamdani's research results (2018) suggest that financial literacy

significantly influences savings sufficient for unexpected expenses. Furthermore, **Nguyen** and **Doan** (2020) also say that financial literacy significantly influences individual saving behaviour. In particular, although the knowledge about saving and investment include the advanced category (see Table 1) but saving in Table 2 belong to less category. Overall, if SFL lack, then they cannot manage their personal finance properly (Navickas, et al., 2014). So it is essential to improve the level of financial literacy of students to improve the quality of life in the future.

## CONCLUSION

The level of financial literacy and personal financial management of students in the Indonesia-Timor Leste border region (BAITL) will be the starting point to raise to a better grade. The results showed that the average SFL rate is 78.90%, while the average SPFM is 60.49%. SPFM level is still low, while the level of SFL in the border area includes less (less literate). Based on the results of the F-test, SFL can affect SPFM by 59.4%. This result is significant at alpha 5% and degrees of freedom 163. The estimated regression model is  $SPFM = 3,158 + 0.338SFL$  which means that any increase in SFL of 1 unit will increase SPFM 0.338. The future work is to design financial literacy materials to improve students' literacy and financial management in BAITL.

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