

# Financial Behavior and Financial Well-Being of College Student: Effect of Self-Control, Optimism, and Deliberative Thinking

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## ABSTRACT

For the first time in their lives, most young adults are managing their finances on their own. In today's society, the ability to manage personal finances has become increasingly vital. Thus, personal finance study and how individuals make financial decisions are fascinating topics to investigate. This research aims to know the influence of self-control, optimism, and deliberative thinking on financial behavior and its impact on the financial well-being of college students.

The research methodology used in this study is a case study with a survey research method. Judgment sampling techniques derived from non-probability sampling techniques are used for sample selection. The sample of this research is 337 respondents, and we use the OLS regression as the model estimation.

This study indicates that self-control and deliberative thinking significantly influence financial behavior, but optimism does not affect financial behavior. Then, self-control significantly affects financial well-being. Surprisingly, financial behavior does not affect the financial well-being of the college student, and other variables such as optimism and deliberative thinking also do not affect financial well-being. This result could give evidence about the factors affecting financial behavior and financial well-being; thus, it could give the college student and financial institutions implications for increasing personal financial ability as a whole.

**Key Words:** Financial behavior; Financial well-being; College student; Personal finance.

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## 1. Introduction

Young adults aged 18–25 are in a distinct life-cycle stage (Peterson and Leffert, 1995). This period, referred to as emerging adulthood (Arnett, 2000), is characterized by significant life-changing experiences, including financial matters. College students are a major part of society who will significantly impact the economy as they become more self-sufficient in terms of

financial decisions and management (Nababan and Sadalia, 2013). In today's society, the ability to manage personal finances has become increasingly vital (Gedmintiene and Visockaite, 2016). Because, despite having much money, people should manage their finances carefully. The primary issue is not how much money people have but how well they make financial decisions and manage their finances.

According to OJK (Otoritas Jasa Keuangan) Board of Commissioners Member for Education and Consumer Protection, Tirta Segara, the OJK's 3-year national survey on financial literacy and inclusion in 2016 recorded that there were still a small number of college students who had a basic understanding of finances.

Table 1 Financial Literacy and Financial Inclusion of College Student

Source: Otoritas Jasa Keuangan, 2018

	2016
Financial Literacy	23,4%
Financial Inclusion	64,2 %

Refer to Table 1, which shows that financial literacy is still too low compared with financial inclusion. Tirta Segara also explains that this phenomenon demonstrates that many people have used financial products and services without adequate financial knowledge. People with low financial literacy are less likely to accumulate and manage wealth effectively (Hilgert et al., 2003). When college students are unable to manage their finances appropriately, they may experience difficulties. People are not only challenged with the complexities of various financial service products, but they are also more likely to face massive financial hazards in the future. We do not save enough for retirement (Lusardi, 1999), we overspend (Sotiropoulos and d'Astous, 2013), we do not pay our bills on time, and we occasionally buy things we later regret (Abendroth and Diehl, 2006).

Another evidence comes from the survey conducted by Tokopedia in 2014, which shows that most students dominate the number of purchases, the number of sales, the amount of expenditure, and the amount of income in Tokopedia. Tokopedia has placed most students with a percentage of 66.28% as consumptive people with shopping duration that can reach three times a week (Tokopedia.com). Also, based on the research results conducted by Kompas Indonesia in 2012, college students were interested in shopping. They were more likely to behave consumptively than parents and high school students. This is further reinforced by Marknetter's (2013) data, which stated that the economic driver of the online buying and selling market is the Y generation or also known as Millenials (having birth years 1982-2000).

Table 2. Percentage of online buying

Source: Marketter's (2013)

Age	17-19	20-28	29-35	>35
Percentage of online buying	34%	27%	21%	18%

Table 2 shows that the online market depends on young consumers, especially college students. Widener (2017) claims that college students have developed a reputation for irresponsibility and impulsivity, contributing to the idea that they are poor money managers. According to a survey conducted by OHIO University in 2007, 70% of college students are anxious about their finances, which can lead to a new problem that impacts their entire lives. Therefore, it can be said that college student has low financial well-being.

However, we do not make bad financial decisions all the time, and some of us are more or less inclined to make bad financial decisions. According to Xiao (2008), financial behavior significantly impacts financial decision-making, affecting personal finance in general. Therefore, developing positive financial habits in college increases a person's chances of achieving a higher quality of life later in life (Worthy et al., 2010; Xiao et al., 2009).

It is critical to research what psychological variables influence individuals' good financial behavior and financial well-being in order to increase our understanding of how people make financial decisions. On the other hand, previous research has mainly focused on the impact of cognitive characteristics on financial behavior, such as financial literacy (Fernandes et al., 2014; Lusardi and Mitchell, 2007) and numeric skills (Lusardi, 2012). Non-cognitive characteristics such as self-control, optimism, and deliberative thinking have received less attention in study. For example, people with poor self-control are more likely to engage in compulsive shopping, according to Achtziger et al. (2015), while people with poor financial self-control are more likely to suffer from credit withdrawals and unforeseen expenses on durables, leading to over-indebtedness, according to Gathergood (2012). It has also been shown that people's savings behavior is affected by their self-control.

Few studies have explored the relationship between self-control and broader, more general measures of financial behavior. Individuals with greater self-control and proclivity to plan for the future also have superior financial management skills (Miotto and Parente, 2015). Self-control influences people's financial behavior; people who have high self-control are more likely to save money from their paychecks regularly, which means they are better prepared to deal with unforeseen expenses and are more likely to save enough for retirement (Stromback et al., 2017).

Optimism is related to numerous work/life choices: more optimistic people work harder, expect to retire later, are more likely to remarry, invest more in individual stocks, and save more (Robinson and Puri, 2007). Optimism has also been linked to general well-being and perhaps an essential aspect of financial well-being. Depressed individuals are more likely to have negative ideas about the future and suffer to a greater extent from pessimism bias than non-depressed individuals (Strunk et al., 2006).

Intuitive thinking, the polar opposite of deliberative thinking, has been linked to decision-making behavioral biases. For example, according to Kahneman et al. (1982), faith in intuition was highly connected to heuristic judgments. Furthermore, Thoma et al. (2015) discovered that professional financial traders engage in more deliberative thinking and employ fewer heuristics in decision-making than non-financial traders. As a result, it is intriguing to see how closely these deliberative thinking-related psychological categories are linked to financial behavior and well-being.

Shim et al. (2009) discovered that financial behaviors, including budgeting and saving

management, were linked to young adults' financial well-being. According to Worthy et al. (2010), college students' bad financial behavior may impact their future financial well-being. Conversely, positive financial activities, according to researchers, should promote financial well-being (Shim et al. 2009; Xiao et al. 2006; Xiao et al. 2009). Xiao et al. (2007) investigated financial behavior and the consequences on college students' well-being. When people are financially secure, they are happier (O'Neill et al., 2005). College students, on the other hand, face higher levels of stress and lower levels of psychological well-being; as a result, financial well-being is negatively connected with academic performance and health (Adams and Moore 2007; Nelson et al. 2008; Norvilitis and Santa Maria 2002; Rao and Barber 2005; Roberts and Jones 2001; Shim et al. 2009).

Stromback et al. (2017) conducted a previous study that found the impact of self-control, optimism, and deliberative thinking on financial behavior and well-being among a broad population in Sweden. Previous research has suggested that the impact of financial behavior on financial well-being be investigated. The researcher is attempting to analyze financial behavior concerning financial well-being among college students; as a result, this study contributes to the existing research. Many students face financial issues at college, including paying bills, making a budget, and utilizing credit for the first time. Students' capacity to deal with these issues is highly dependent on the financial knowledge and behaviors they learned before being on their own (Lyons et al. 2006b).

Failure to recognize students' stress and failure to provide them with coping skills and financial information may result in poor financial decisions. A lack of financial understanding in society affects savings and investing decisions, debt management, retirement planning, stock market participation, and wealth and income distribution (Lusardi & Mitchell, 2014). The lack of financial knowledge and abilities has been recognized as a factor in the economic and financial crisis (Mitchell & Lusardi, 2015). Identifying and assessing financial stress is critical in the current economic context, both locally and worldwide. Recent research has linked these issues to decreases in consumer spending, slowing the economy, and decreases in public service employment, leaving many vital career fields with critical staffing levels (Cornelius & Frank, 2015).

## **2. Literature Review**

### *2.1 Self-control*

Shefrin and Thaler (1981) proposed an economic theory of self-control. According to their idea, every person has two sides: a "doer" who goes for short-term joy and a "planner" who considers the long-term effects of decisions. According to the theory, these two sides are frequently in conflict, and self-control determines which side wins the clash between them. This is since self-control refers to the ability to resist impulses and temporary temptations.

Our ability to break bad habits, resist temptations, and overcome first impulses are examples of self-control (Baumeister, 2002; Fujita et al., 2006). Self-control is defined as the ability of our future selves to control our current selves. The ability to control impulses is undoubtedly an essential factor for long-term success in many areas of life.

The advantages of good self-control are varied and vital to humans. When it comes to characteristic self-control, some people score higher than others. They would likely benefit from the ability to effectively and regularly resist problematic impulses. However, Hofmann et al. (2012) found the ostensibly opposite result: people with excellent self-control reported resisting temptations less frequently than others in an experience sampling study.

## *2.2 Optimism*

Related to saving behaviors, it is presumed that optimism lowers the probability of saving (Katona's, 1968). However, according to Katona, wants are not static, and when individuals are optimistic about their personal and the economy's prospects, new desires emerge. When a person feels disappointed about the future, on the other hand, it may lead to a feeling of saturation with goods and increased savings.

Carver and Schier, in 2001, developed the notion of optimism known as Expectancy Value. The theory of motivation, often known as expectancy-value theory, is linked to the concept of optimism (Carver & Scheier, 2001). Individual behavior, according to this view, has two components:

- Goal

Goals are actions that are considered desirable or undesirable. Individuals attempt to alter their behavior in order to achieve their goals. They stay away from what they do not want—the more pronounced the goal, the more valuable it is in motivating the individual. A person has no motivation to act if they do not have a goal.

- Expectancy

Expectancy is confidence or doubt in achieving goals. There will be no action if the person is hesitant. Doubt can get in the way of reaching your goal, either before we start or while we are doing it. Only those who have a positive outlook on life are capable of continuing their business.

Optimism, according to Scheier et al. (1994), is defined as "generalized positive expectations about future events." These optimists expect things to go their way and assume that positive things will happen rather than bad. Other persons have an opposite set of beliefs. These pessimists believe that things will not go their way and those bad things will happen.

## *2.3 Deliberative Thinking*

According to James S. Coleman's Rational Choice Theory, one's actions consciously lead to a goal defined by value or preference. Thus, if something has benefits and advantages for actor satisfaction, it can have value.

Actors and Resources are two crucial components of James S. Coleman's rational choice theory: Actors and Resources. Actors are considered individuals with a purpose or goal, the goals to be achieved, and action directed towards efforts to achieve these goals. Furthermore, the actor is seen as having a choice, a goal, or something of value. The assumption actors make while making decisions is that they will employ in-depth considerations based on their awareness. Aside from that, the actor can make decisions and perform acts based on his desires. Resources

are things that are controlled by the actor and what they want.

Individual differences in the inclination to utilize an intuitive (i.e., spontaneous, affect-based) vs. a deliberative (i.e., effortful, planned, and analytic) decision mode are reliable (Kahneman, 2003, p. 698). However, it is common knowledge that thoughtful, deliberate thought leads to reasonable conclusions and satisfying options.

Hidayat (2016) defines procedurally rational behavior as the product of a mature deliberation process. People often feel that substantial conscious deliberation increases the likelihood of making the "correct" option, whether they buy a new car, a desktop computer, or a pair of shoes.

#### *2.4 Financial Behavior*

The theory of planned behavior develops Martin Fishbein and Icek Ajzen's theory of reasons action (Ajzen, *The Theory of Planned Behavior*, 1991). This hypothesis is founded on the idea that most people behave rationally; they analyze all available information and implicitly or explicitly consider the consequences of their actions. This theory also claims that a person's desire to perform (or not perform) behavior is the most critical intermediate determinant of that action (Ajzen, 2005).

According to Ajzen (2005), the theory of personal financial planners includes three essential determinants: one of a personal nature, one of personal influence, and the third of control difficulties. Thus, there are three critical components in planned behavior, according to those core determinants: attitude toward the behavior, subjective norm, and perceived behavioral control.

This hypothesis has a solid connection to financial behavior variables, particularly attitudes toward behavior factors. People will assess whether they are engaging in negative or positive financial behavior based on their interests. When people save money, for example, they may be observed doing something beneficial to their lives.

According to Bergner (2011), behavior can be defined as an essentially observable physical action in general. Financial behavior, on the other hand, can be described as any human activity that has to do with money management (Xiao, 2008). People who have a good understanding of finances are more likely to adopt good financial habits. According to Xiao (2008), financial behavior significantly impacts financial decision-making, affecting personal finance in general.

#### *2.5 Financial Well-being*

Financial well-being is described as the ability to comfortably meet all of one's current obligations and requirements, as well as the financial resilience to do so in the future (Kempson et al., 2017). It can also be defined as a state of being in which a person is able to fully meet present and future financial commitments, feel safe in their financial future and make decisions that allow them to enjoy life (CFPB, 2015).

Financial well-being is measured as a subjective measure, which is as important as an objective one (Strömbäck et al., 2017). Objective measures are more solid and accurate, whereas

subjective measures provide a more comprehensive picture of a person's financial situation (Taft et al., 2013). Subjective measures, such as happiness with income or financial position, focus more on people's perceptions of their financial condition (George, 1993). In their study, Strömbäck et al. (2017) also employed financial well-being as a subjective measure. Financial security and financial anxiety were used to assess financial well-being.

According to the 3P model theory, a pleasant experience in one's life is meaningful if it is vital to our current self and our past and future self. Since human lives can be measured over time (who I was, who I am, and who I will be), subjective well-being may be measured as well (Durayappah, 2010). The 3P Model classifies aspects of subjective well-being into three secular states: Present, Past, and Prospect (Future). The model shows how each state contributes to a global evaluation of subjective well-being and how each condition is distinct while remaining related to the others.

## *2.6 Hypothesis Development*

- The effect of self-control on financial behavior

Studies on the relationship between self-control and financial behavior have focused on specific financial decisions, including retirement planning, credit usage, and savings, among others. People with poor self-control are less likely to save enough money for retirement, according to Choi et al. (2011). Self-control has a positive effect on general financial behavior, according to Stromback et al. (2017). People who have high self-control are more likely to save money from their paychecks on a regular basis, which means they are better prepared to handle unexpected expenses and are more likely to save enough for retirement. This result is consistent with previous research (Ameriks et al., 2007; Biljanovska and Palligkinis, 2015). So, the researcher proposed the hypotheses:

H1: Self-control has an impact on financial behavior

- The effect of optimism on financial behavior

More optimistic people had better financial behavior, were less stressed about money and were more confident in their financial conditions (Stromback et al., 2017). Puria & Robinson (2007) discovered that optimism has a major impact on decision-making, such as retirement and saving. So, the researcher proposed the hypotheses:

H2: Optimism has an impact on financial behavior

- The effect of deliberative thinking on financial behavior

It is rare to come across a study that looks into deliberative thinking and financial behavior. However, according to Stromback et al. (2017), deliberative thinking has a major impact on financial behavior. This is because deliberate processes require more effort, are more explicit, and are more consciously controlled. As a result, persons who have spent time deliberating are more careful when making financial decisions. So, the researcher proposed the hypotheses:

H3: Deliberative thinking has an impact on financial behavior

- The effect of financial behavior on financial well-being

Shim et al. (2009) discovered that financial behaviors like budgeting and saving management were linked to young adults' financial well-being. According to Worthy et al. (2010), bad financial behavior among college students may have an impact on their future financial well-being. Xiao et al. (2007) investigated financial behavior and the

consequences of financial activity on college students' well-being. They discovered that good money management, credit management, and saving habits were linked to overall happiness. Gutter and Copur (2011) also demonstrated a link between financial behavior and financial well-being. So, the researcher proposed the hypotheses:

H4: Financial behavior has an impact on financial well-being

- The effect of self-control on financial well-being

Self-control influenced both components of financial well-being (financial anxiety and perceived financial security), according to Stromback et al. (2017). It had a positive impact on financial security while having a negative impact on financial anxiety. As a result, according to Stromback, self-control has a positive impact on financial well-being. Unfortunately, no other study has investigated the link between self-control and financial well-being. So, the researcher proposed the hypotheses:

H5: self-control has an impact on financial well-being

- The effect of Optimism on Financial Well-being

Optimism has also been linked to general well-being and may be a crucial component of financial well-being. According to Stromback et al. (2017), optimism has a positive impact on financial well-being. Depressed people are more likely to have negative ideas about the future and suffer from pessimism bias to a higher extent than non-depressed people (Strunk et al., 2006). So, the researcher proposed the hypotheses:

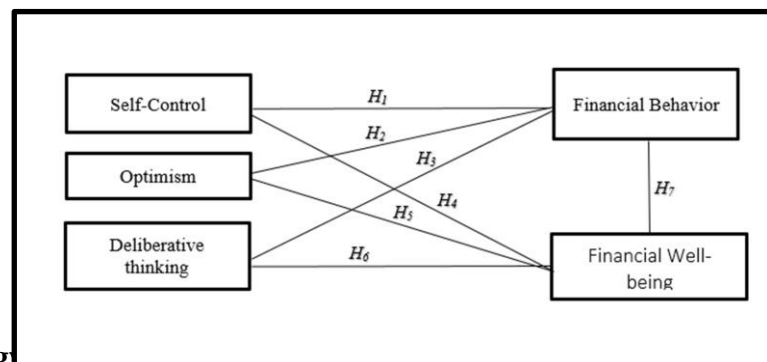
H6: Optimism has an impact on financial well-being

- The effect of deliberative thinking on financial well-being

It is common knowledge that thoughtful, deliberate thought leads to good decisions and satisfactory options. On the other hand, intuitive thinking, which is the polar opposite of deliberative thinking, has been linked to decision-making behavioral biases (Dijksterhuis et al., 2014). According to Stromback et al. (2017), deliberative thinking has a positive impact on financial well-being. So, the researcher proposed the hypotheses:

H7: Deliberative thinking has an impact on financial well-being

Figure 1. Research Model



### 3. Research Methodology

Descriptive analytics research is used in this research. Questionnaires with a five-point Likert



scale as the measurement are employed. The survey is included in the cross-sectional survey because we collect information from a sample drawn from a population, and it involves collecting data at one point in time (Kumar, 2011). Gender, income, and financial literacy are included as the control variable.

This study was conducted in June 2019. The subject of the research is the student of Faculty of Economics & Business, Universitas Jenderal Soedirman. We use the non-probability sampling method and use judgment sampling from the 2.154 population from the class of 2015 until 2018. The researcher determines the sample using Slovin's formula and gets 337 samples. Distributing questionnaire is the primary data collection method that used in this study. Both physical and online questionnaires are distributed.

In this research, the instrument tests, which are validity and reliability tests, are used since the data type is primary data. The researcher spread out questionnaires to gather all the data that was needed. The researcher conducts classical assumption tests such as normality tests, multicollinearity tests, and heteroscedasticity tests to determine the relationship between variables. To test the hypothesis, this research uses multiple regression analysis and also statistics tests which are the adjusted coefficient determination test (Adj-R<sup>2</sup>), the goodness of fit test (F-Test), and individual parameter test (T-Test).

First mathematics regression model:

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + \mu_i$$

Y : Financial Behavior

a : Constants

X1 : Gender (control variable)

X2 : Income (control variable)

X3 : Financial Literacy (control variable)

X4 : Self-control

X5 : Optimism

X6 : Deliberative thinking

b1, b2, b3, b4, b5, b6 : Coefficient Regression

$\mu_i$  : Standard Error

Second mathematics regression model:

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + b_7x_7 + \mu_i$$

Y : Financial Well-being

a : Constants

X1 : Gender (control variable)

X2 : Income (control variable)

X3 : Financial Literacy (control variable)

X4 : Financial Behavior

- $X_5$  : Self-control  
 $X_6$  : Optimism  
 $X_7$  : Deliberative thinking  
 $b_1, b_2, b_3, b_4, b_5, b_6, b_7$  : Coefficient Regression  
 $\mu_i$  : Standard Error

## 4. Results

### 4.1 Ordinary Least Square Regression

The least-square regression principle, according to Lind et al. (2012), is a mathematical approach that uses data to position a line to minimize the sum of the squares of the vertical distances between the actual Y values and the predicted Y values. Simple regression and multiple regression are two types of ordinary least square analysis; the researcher will employ both of these regression approaches in this study.

OLS is a regression method that minimizes the number of quadratic errors. The linear regression model used with the OLS method must fulfill the BLUE (best linear unbiased estimator) assumptions in estimating the interval and testing the population regression parameters.

#### 4.1.1 Regression Equation

Based on the output result from SPSS 23 software, the researcher obtained the result of the first regression model that has been summarized in Table 3.

Table 3. The Summary Result of First Multiple Regression Analysis  
Source: Primary Data Processed, 2019

No	Independent Variable	Regression Coefficient
1	Gender	2,215
2	Income	0,391
3	Financial Literacy	0,286
4	Self-control	-0,261
5	Optimism	0,135
6	Deliberative Thinking	1,379
Constants		: 28,179
Adj-Coefficient Determination		: 0,119
F-Count		: 8,466

According to Table 3, we can make the multiple regression equation for the first regression model as follows:

$$Y = 28,179 + 2,215X_{c1} + 0,391X_{c2} + 0,286X_{c3} + -0,261X_1 + 0,135X_2 + 1,379X_3$$

From the equation Y1, we can get few explanations as follows:

- The constants of 28,179 mean that if control variables such as gender, income, financial literacy, and independent variables such as self-control, optimism, and deliberative thinking are assumed unchanged or fixed, the financial behavior level is 28,179 units of the count.
- The regression coefficient of 2,215 means that the gender variable positively impacts the financial behavior variable. For example, if the perception of gender variable increases by one unit, it will increase the financial behavior level by 2,215 units by assuming another variable is fixed.
- The regression coefficient of 0,391 means that the income variable positively impacts the financial behavior variable. For example, if the perception of the income variable increases by one unit, it will increase the financial behavior level by 0,391 units by assuming another variable is fixed.
- The regression coefficient of 0,286 means that the financial literacy variable has a positive impact on the financial behavior variable, or it can be said that if the perception of the financial literacy variable increases by one unit, it will increase the financial behavior level by -0,264 units by assuming another variable are fixed.
- The regression coefficient of -0,261 means that the self-control variable has a negative impact on the financial behavior variable. If the perception of the self-control variable increases by one unit, it will increase the financial behavior level by -0,261units by assuming another variable is fixed.
- The regression coefficient of 0,135means that the optimism variable has a positive impact on the financial behavior variable. If the perception of optimism variable increases by one unit, it will increase the financial behavior level by 0,135 units by assuming another variable is fixed.
- The regression coefficient of 1,379 means that the deliberative thinking variable has a positive impact on the financial behavior variable, or it can be said that if the perception of the deliberative thinking variable increases by one unit, it will increase the financial behavior level by 1,379units by assuming another variable are fixed.

Table 4. The Summary Result of Second Multiple Regression Analysis  
Source: Primary Data Processed, 2019

No	Independent Variable	Regression Coefficient
1	Gender	0,128
2	Income	0,079
3	Financial Literacy	-0,085
4	Financial Behavior	0,026
5	Self-control	0,131
6	Optimism	0,034
7	Deliberative Thinking	-0,028
Constants		: 17,266
Adj-Coefficient Determination		: 0,045
F-Count		: 3,210

According to the Table 4, we can make the multiple regression equation for the second regression model as follows:

$$Y = 17,193 + 0,128Xc1 + 0,079Xc2 + -0,085Xc3 + 0,026X1 + 0,131X2 + 0,034X3 + -0,028X4$$

From the equation Y2, we can get few explanations as follows:

4. The constants of 17,193 mean that if the control variables such as gender, income, financial literacy, and independent variables such as financial behavior, self-control, optimism, and deliberative thinking are assumed unchanged or fixed, the financial well-being level is assumed unchanged is 17,193units of the count.
5. The regression coefficient of 0,128 means that the gender variable positively impacts the financial well-being variable. For example, if the perception of gender variable increases by one unit, it will increase the financial well-being level by 0,026 units by assuming another variable is fixed.
6. The regression coefficient of 0,079 means that the income variable positively impacts the financial well-being variable. For example, if the perception of the income variable increases by one unit, it will increase the financial well-being level by 0,026 units by assuming another variable is fixed.
7. The regression coefficient of -0,085 means that the financial literacy variable has a negative impact on the financial well-being variable. If the perception of the financial literacy variable increases by one unit, it will increase the financial well-being level by one unit - 0,085units by assuming another variable is fixed.
8. The regression coefficient of 0,026means that the financial behavior variable has a positive impact on the financial well-being variable. If the perception of the financial behavior variable increases by one unit, it will increase the financial well-being level by one unit 0,026units by assuming another variable is fixed.
9. The regression coefficient of 0,131 means that the self-control variable positively impacts the financial well-being variable. For example, if the perception of the self-control variable increases by one unit, it will increase the financial well-being level by 0,131units by assuming another variable is fixed.
10. The regression coefficient of 0,034 means that the optimism variable positively impacts the financial well-being variable. For example, if the perception of optimism variable increases by one unit, it will increase the financial well-being level by 0,034units by assuming another variable is fixed.
11. The regression coefficient of -0,028 means that the deliberative thinking variable has a negative impact on the financial well-being variable, or it can be said that if the perception of deliberative thinking variable increases by one unit, it will increase the financial well-being level by -0,028units by assuming another variable are fixed.

#### 4.1.2 The Goodness of Fit Test (f-test)

A goodness of fit test was used to check the model accuracy. Since there are two models in this research, the researcher will explain the result of each research model. The analysis was done using SPSS 23.

The result for the first regression model, based on regression output, the researcher obtained the F-count value for 8,466, more than the F-table value with  $df = (k-1)$  and  $(n-k)$  and  $\alpha = 5\%$ , which is 2,63. The result of the F-test shows that the first regression model, which are gender, income, financial literacy, self-control, optimism, and deliberative thinking variables, simultaneously affected the financial behavior variable. The result also shows that the multiple regression model that is formed is declared compatible with the research data.

Meanwhile, based on regression output, the result for the second regression model, the researcher obtained an F-count value for 3,210 more than the F-table value with  $df = (k-1)$  and  $(n-k)$ , which is 2,40. Thus, the result of the F-test shows that the gender, income, financial literacy, financial behavior, self-control, optimism, and deliberative thinking variables were simultaneously affecting the financial well-being variable. The result also shows that the multiple regression model that is formed is declared compatible with the research data.

#### 4.1.3 Adjusted Coefficient Determination Test (Adj - R<sup>2</sup>)

The output in Appendix 9 shows that the adjusted coefficient determination (Adj-R<sup>2</sup>) for the first regression model is 0,119. Thus, that coefficient shows that 11,9% variation change of financial behavior variable in this research can be explained by gender, income, financial literacy, self-control, optimism, and deliberative thinking variables. Meanwhile, the rest of the percentage, 88,1%, can be explained by other variables that were not examined.

Whereas, for the second regression model, the output in Appendix 10 shows that the adjusted coefficient determination (Adj-R<sup>2</sup>) is 0,045. That coefficient shows that the 4,5% variation change of financial well-being variable in this research can be explained by gender, income, financial literacy, financial behavior, self-control, optimism, and deliberative thinking variables. Meanwhile, the rest of the percentage, 95,5%, can be explained by other variables not examined.

#### 4.1.4 Individual Parameter Test (t-test)

Significance testing for the first regression model and second regression model were used individual parameter test (T-Test). T-test was used to know whether the independent variables significantly affect the dependent variable.

Based on the first regression model of this research, error tolerance ( $\alpha$ ) = 0,05 and the degree of freedom  $(n-k)$ , where  $n = 337$  and  $k = 4$ , so the amount of t-table for the two-tailed test were 1,967 and -1.967. Following are the results of t-count for each variable:

Table 6. The Individual Parameter Test Result for the First regression model  
Source: Primary Data Processed, 2019

Independent Variable	t-count	t-table	Sig	Impact
Gender	3,073	1,967	0,002	Positive significant effect
Income	1,208	1,967	0,228	No significant effect
Financial Literacy	1,059	1,967	0,291	No significant effect
Self-control	-3,724	1,967	0,000	Negative significant effect
Optimism	0,885	1,967	0,377	No significant effect
Deliberative Thinking	4,300	1,967	0,000	Positive significant effect

Another second regression model of this research, with error tolerance ( $\alpha$ ) = 0,05 and the degree of freedom (n-k), where n = 337 and k = 5, the amount of t-table for the two-tailed test were 1,967 and -1,967. These are the results of t-count for each variable from multiple regression analysis.

Table 7. The Individual Parameter Test Result for the Second regression model  
Source: Primary Data Processed, 2019

Independent Variable	t-count	t-table	Sig	Impact
Gender	0,409	1,967	0,682	No significant effect
Income	0,570	1,967	0,569	No significant effect
Financial Literacy	-0,738	1,967	0,461	No significant effect
Financial Behavior	1,094	1,967	0,275	No significant effect
Self-control	4,287	1,967	0,000	Positive significant effect
Optimism	0,523	1,967	0,601	No significant effect
Deliberative Thinking	-0,197	1,967	0,844	No significant effect

## 5. Discussion

Based on the result from hypotheses, testing proves that on the first regression model, self-control and deliberative thinking variables affect financial behavior. In contrast, the optimism variable does not affect financial behavior. Meanwhile, the second regression model shows that only the self-control variable positively affects financial well-being. In contrast, financial behavior, optimism, and deliberative thinking variables do not affect financial well-being. Therefore, the discussion of each hypothesis can be explained as follows:

The initial hypothesis testing revealed that the self-control variable had a significant impact on financial behavior. Thus, the findings of this study are similar to those of Stromback et al. (2017), who discovered that self-control influences overall financial behavior.

People who have high self-control are more likely to save money from their paychecks on a regular basis, which means they are better prepared to deal with unexpected expenses and are more likely to save enough for retirement. This result is consistent with earlier research (Ameriks et al., 2007; Biljanovska and Palligkinis, 2015). Furthermore, according to Nofsinger (2005), a person manages his spending by battling the impulse or urge to overspend money, or, in other words, spending money on wants rather than needs. Hence self-control is linked to better

financial management. Financial management requires each individual to live a prioritized lifestyle in order to avoid becoming consumptive and wasteful.

The second hypothesis test revealed that the optimism variable had no significant impact on financial behavior. This study's findings contradict those of Puria and Robinson (2007), who found that optimism is strongly linked to decisions such as retiring and saving. Meanwhile, Stromback et al. (2017) discovered that optimism has a strong influence on financial decisions.

Puria and Robinson (2007), on the other hand, claim that moderate optimists have good financial habits: they are more likely to pay off credit card balances on time, have long planning horizons, and indicate that they save because it is a good thing to do. On the other hand, extreme optimists have limited planning horizons and are less inclined to believe that saving is beneficial. As a result, extreme optimists save less, whereas moderate optimists save more. Thus, even if the findings of this study show that optimism does not affect financial behavior, this may be because highly optimistic persons have poor financial behavior.

Deliberative thinking has a significant impact on financial behavior, according to the results of the third hypothesis testing. The findings of this study are consistent with those of Stromback et al. (2017), who discovered that deliberate thinking has a significant impact on financial behavior. It is caused by more effortful, explicit, and consciously controlled processes. As a result, persons who are well-deliberate are more cautious while making financial decisions. People assume that serious conscious deliberation increases the likelihood of making the "best" decision. People will do surveys before purchasing goods or services to obtain the best results, such as a low price, high quality, and so on. It demonstrates that deliberate thinking plays a vital part in financial decision-making.

The fourth hypothesis testing revealed that the financial behavior variable does not affect financial well-being. The findings of this study contradict those of Shim et al. (2009), who discovered that financial behaviors such as budgeting and saving management were linked to young people's financial well-being. Financial conduct, according to Stromback et al. (2017), has a significant impact on financial well-being.

Previous research has revealed no explanation for why financial behavior has no impact on financial well-being. The researcher, on the other hand, attempted to explain the respondent's view as affirmation. The allocations for each need were carefully regulated, based on the respondents' knowledge that most of them get monthly income from their parents. They can ask their parents for money if they run out of money before the next month's income. As a result, it is possible that financial behavior does not affect the financial well-being of college students. Around 30% of respondents report feeling safe and unconcerned about money because their parents provide for their needs.

The self-control variable has a significant impact on financial well-being, according to the fifth hypothesis testing result. The findings of this study are similar to those of Stromback et al. (2017). They discovered that self-control affected both components of financial well-being (financial anxiety and perceived financial security). Unfortunately, no other study has looked into the relationship between self-control and financial well-being. As a result, this study will

add to the empirical evidence on the impact of self-control on financial well-being.

One of the components of subjective well-being, Future Expectations, according to the 3P Model hypothesis of subjective well-being, explains that when someone has a positive expectation for the future, they will plan for it. On the other hand, self-control influences whether someone is a doer or a planner. They become a planner when they go for a long period of enjoyment.

The sixth hypothesis testing revealed that the optimism variable does not affect financial well-being. The findings of this study oppose those of Stromback et al. (2017), who discovered that optimism had a positive impact on financial well-being. In the meantime, no other researcher has looked at the impact of optimism on financial well-being. As an affirmation, the researcher attempted to explain the respondent's perception. According to the respondents, the experience caused them to feel safe and anxious about their finances, not just their current circumstances and expectations for the future, which were linked to optimism. As a result, optimism does not appear to have an impact on financial well-being. However, past experiences can lead someone to feel secure or anxious about money concerns.

The seventh hypothesis test showed that the variable of deliberate thinking does not affect financial well-being. The findings of this study contrast those of Stromback et al. (2017), who found that deliberative thinking has a positive impact on financial well-being. Unfortunately, no other researcher has looked into the impact of deliberative thinking on financial well-being.

As a result, the researcher tried to justify the respondent's view as affirmation. Overthinking results from the respondents' recognition that financial anxiety can occur when they spend too much time in the thought process. So, people could avoid the deliberation process. That is why deliberative thinking does not affect financial well-being.

## **6. Conclusion**

Self-control significantly influenced financial behavior and financial well-being, meaning that self-control is a significant factor in increasing financial behavior and financial well-being. Students, as the respondents, have to be concerned about the phenomenon by identifying their habits regarding financial behavior and financial well-being. Students are suggested to control themselves when making financial decisions. The deliberative thinking variable also has a significant impact on financial well-being. To improve financial well-being, college students have to take an effortful thought process about their current and future financial problems to make financial decisions that can reduce financial anxiety and increase financial security.

Many of the respondents complain about the number of the questionnaire because it is pretty much and need a long time to fulfill the questionnaire. This becomes a potential limitation when dealing with self-reported data because the result might be influenced by people's moods and misunderstanding the questions. Furthermore, the analysis also shows that the adjusted coefficient determination (Adj-R<sup>2</sup>) for the first regression model is only 0,119, which means the investigated variables are less significant towards the research object; therefore, the research cannot be by reference.

The researcher hopes that in the future, other variables can be included in this study, such as the



financial attitude, parents' financial well-being, external locus of control, and other variables that might influence financial behavior and financial well-being.

## References

- Abendroth, L.J., Diehl, K. (2006). Now or never: Effects of limited purchase opportunities on patterns of regret over time. *J. Consum. Res.* 33 (3), 342–351.
- Achtziger, A., Hubert, M., Kenning, P., Raab, G., Reisch, L. (2015). Debt out of control: The links between self-control, compulsive buying, and real debts. *J. Econ. Psychol.* 49, 141–149.
- Adams, T., & Moore, M. (2007). High-risk health and credit behavior among 18-to 25-year-old college students. *Journal of American College Health*, 56, 101–108.
- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 179-211.
- Ajzen, I. (2005). *Attitudes, Personality, and Behavior* (2nd Edition ed.). Open University Press.
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55, 469–480.
- Baumeister, R.F. (2002). Yielding to temptation: Self-control failure, impulsive purchasing, and consumer behavior. *J. Consum. Res.* 28 (4), 670–676.
- Bergner, R. M. (2011). What is Behavior? And So What? *New Ideas in Psychology*, 29, 147-155.
- Biljanovska, N., Palligkinis, S. (2015). Control thyself: Self-control failure and household wealth. SAFE Working Paper No. 69. Available at SSRN: <https://ssrn.com/abstract=2509080>.
- Carver, C. S., & Scheier, M. F. (2001). Optimism, pessimism, and self-regulation. In E. C. Chang (Ed.), *optimism & pessimism: Implications for theory, research, and practice* (pp. 31-51). Washington, DC, US: American Psychological Association. Doi: <http://dx.doi.org/10.1037/10385-002>
- Consumer Financial Protection Bureau. (2015). *Measuring Financial Well-being: A Guide to Using the CFPB Financial Well-being Scale*. [consumerfinancial.gov/financial-well-being](http://consumerfinancial.gov/financial-well-being).
- Choi, J.J., Laibson, D., Madrian, B.C., (2011). \$100 bills on the sidewalk: Suboptimal investment in 401 (k) plans. *Rev. Econ. Stat.* 93 (3), 748–763.
- Cornelius, L. M., & Frank, S. A. (2015). Student loan debt levels and their implications for borrowers, society, and the economy. *Educational Considerations*, 42(2), 35–38. doi:10.4148/0146-9282.1052
- Durayappah Adoree. (2010). The 3P Model: A General Theory of Subjective Well-Being. *J Happiness Stud*.
- Fernandes, D., Lynch Jr., J.G., Netemeyer, R.G. (2014). Financial literacy, financial education, and downstream financial behaviors. *Manage. Sci.* 60 (8), 1861–1883.
- Fujita, K., Trope, Y., Liberman, N., Levin-Sagi, M., (2006). Construal levels and self-control. *J. Pers. Soc. Psychol.* 90 (3), 351–367.

- Gathergood, J. (2012). Self-Control, Financial Literacy and Consumer Over- Indebtedness. *J. Econ. Psychol.* 33, 590–602.
- Gedmintiene, D. D., and Visockaite, A. (2016). The Importance of Personal Finance for Investment and Applying Financial Behaviour Principles in Personal Finance Investment Decisions in Lithuania. *Societal Studies Research Journal*, 8(1), 118-131.
- George, L. K. (1993). Sociological perspective on life transitions. *Annual Review of Sociology*, 19(1), 353-373. <http://dx.doi.org/10.1146/annurev.so.19.080193.002033>
- Hilgert, M. A., Hogarth, J. M., and Beverly, S. G. (2003). Household Financial Management: The Connection between Knowledge and Behavior. *Federal Reserve Bulletin*, 309-322.
- Kahneman, Daniel and Tversky, Amos 1982. On the study of statistical intuitions. *Cognition*, Vol. 11, Issue. 2, p. 123.
- Kahneman, D. (2003). A perspective on judgment and choice: Mapping bounded rationality. *American Psychologist*, 58(9), 697–720. <https://doi.org/10.1037/0003-066X.58.9.697>
- Katona, George. (1968). *The American Economic Review* Vol. 58, No. 2, Papers and Proceedings of the Eightieth Annual Meeting of the American Economic Association (May, 1968), pp. 19-30.
- Kempson, E., Finney, A., & Poppe, C. (2017). Financial well-being a conceptual model and preliminary analysis. *Consumption Research Norway (SIFO)*
- Kumar, R. (2011). *Research Methodology* (3rd Edition ed.). SAGE Publications.
- Lind, D. A., Marchal, W. G., and Wathen, S. A. (2012). *Statistical Techniques in Business and Economics* (Vol. 15th). Mc-Graw-Hill/Irwin.
- Lusardi, A. (1999). Information, expectations, and savings for retirement. In: Aaron, H. (Ed.), *Behavioral Dimensions of Retirement Economics*. Brookings
- Lusardi, Annamaria, and Olivia S. Mitchell. 2014. "The Economic Importance of Financial Literacy: Theory and Evidence." *Journal of Economic Literature*, 52 (1): 5-44.
- Lusardi, A. and Mitchell, O.S., (2007). Baby boomer retirement security: The roles of planning, financial literacy, and housing wealth. *J. Monetary Econ.* 54 (1), 205–224.
- Lusardi, A.(2012). Numeracy, Financial Literacy, and Financial Decision-Making. *National Bureau of Economic Research*, (No. w17821).
- Lyons, A. C., Scherpf, E. M., & Roberts, H. (2006). Financial education and communication between parents and children. *The Journal of Consumer Education*, 23, 64–67.
- Marknetter 2013. Consumer Power: Evolution in the Digital Age. *Journal of Interactive Marketing* 27 (2013) 257–269.
- Miotto, A.P.S. and Parente, J. (2015). Antecedents and consequences of household financial management in Brazilian lower-middle-class. *Rev. Adm. Empres.* 55(1), 50–64. Stromback 2017
- Mitchell, O. S., & Lusardi, A. (2015). Financial literacy and economic outcomes: Evidence and policy implications. *The Journal of Retirement*, 3(1), 107-114. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5445906/>

- Nababan, D., & Sadalia, I. (2012). Analisis personal financial literacy dan financial behavior mahasiswa strata I fakultas ekonomi Universitas Sumatera Utara.
- Nelson, M. C., Lust, K., Story, M., & Ehlinger, E. (2008). Credit card debt, stress and key health risk behaviors among college students. *American Journal of Health Promotion*, 22, 400–412.
- Norvilitis, J. M., & Santa Maria, P. (2002). Credit card debt on college campuses: Causes, consequences, and solutions. *College Student Journal*, 36, 356–363.
- O’Neill, B., Sorhaindo, B., Xiao, J. J., & Garman, E. T. (2005). Financially distressed consumers: Their financial practices, financial well-being, and health. *Financial Counseling and Planning*, 16, 73–87.
- Otoritas Jasa Keuangan. (2016). Survei Nasional Literasi dan Inklusi Keuangan 2016. Otoritas Jasa Keuangan.
- Perilaku Konsumtif Dan Tren Shopaholic Pada Mahasiswa Di Indonesia By Braindilog Sosiologi Indonesia September 19, 2017 , Tokopedia.
- Peterson, A. C., & Leffert, N. (1995). What is special about adolescence? In M. Rutter (Ed.), *Psychosocial disturbances in young people: Challenges for prevention* (pp. 3–36). Cambridge: Cambridge University Press.
- Puri M. and Robinson D. T. (2007). Optimism and economic choice. *Journal of Financial Economics*. Doi: <https://doi.org/10.1016/j.jfineco.2006.09.003>
- Rao, A., & Barber, B. L. (2005). Financial well-being: Descriptors and pathways. TCAI Working Paper 5–2.
- Roberts, J. A., & Jones, E. (2001). Money attitudes, credit card use, and compulsive buying among American college students. *Journal of Consumer Affairs*, 35, 213–240.
- Scheier M., Carver, C., and Bridges, M.W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology*, Vol 67(6), Dec 1994, 1063-1078.
- Scheier, M., & Carver, C. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology*, 4, 219–247.
- Shim, S., Xiao, J. J., Barber, B., & Lyons, A. (2009). Pathways to life success: A conceptual model of financial well-being for young adults. *Journal of Applied Developmental Psychology*, 30, 708–723.
- Sotiropoulos, V., d’Astous, A. (2013). Attitudinal, self-efficacy, and social norms determinants of young consumers’ propensity to overspend on credit cards. *J. Consum. Policy* 36 (2), 179–196.
- Strömbäck, C., Lind, T., Skagerlund, K., Västfjäll, D., & Tinghög, G. (2017). Does self-control predict financial behavior and financial well-being? *Journal of Behavioral and Experimental Finance*, 14, 30–38. <https://doi.org/10.1016/j.jbef.2017.04.002>
- Taft, M. K., Hosein, Z. Z., & Mehrizi, S. M. T. (2013). The relation between financial literacy, financial well-being, and financial concerns. *International Journal of Business and Management*, 8(11), 63–75. <https://doi.org/10.5539/ijbm.v8n11p63>

- Widener, Katharine N. (2017). Financial Management Issues of College-Aged Students: Influences and Consequences. Selected Honors Theses. 63. Southeastern University, Lakeland.
- Worthy, S. L., Jonkman, J., & Pike, L. B. (2010). Sensation-seeking, risk-taking, and problematic financial behaviors of college students. *Journal of Family and Economic Issues*, 31, 161–170.
- Xiao, J. J. (2008). Applying Behavior Theories to Financial Behavior. *Handbook of Consumer Finance Research*.
- Xiao, J. J., and Dew, J. (2011). The Financial Management Behavior Scale: Development and Validation. *Journal of Financial Counseling and Planning*, 22(1), 43-59.
- Xiao, J. J., Tang, C., & Shim, S. (2009). Acting for happiness: Financial behavior and life satisfaction of college students. *Social Indicators Research*, 92, 53–68.