

## THE INFLUENCE OF FINANCIAL LITERACY, INDIVIDUAL CHARACTERISTICS, OVERCONFIDENCE AND RISK TOLERANCE ON STOCK INVESTMENT DECISIONS

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**Abstract:** *This study aims to analyze the influence of financial literacy, individual characteristics including age and gender, overconfidence and risk tolerance on stock investment decisions. This research uses quantitative methods. The measurement method of research variables in this study uses an online survey questionnaire instrument via Google-Form. The research sample are students in Faculty of Economics and Business, Universitas Airlangga, who are actively investing that consist of 439 students. The research finding revealed that there is a significant positive influence of financial literacy on stock investment decisions. But, there is no influence of the individual characteristics including age and gender on stock investment decisions. Meanwhile, there is a positive significant influence of overconfidence and risk tolerance on stock investment decisions.*

**Keywords:** *Financial Literacy, Individual Characteristics, Overconfidence, Risk Tolerance, Stock Investment Decisions*

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### 1. Introduction

In this day and age, characterized by the rise of digital technology and the millennial generation, there is a desire among certain individuals to be able to engage in activities that will be profitable in the foreseeable future. This is demonstrated by the rise in investment coming from a variety of different kinds of capital markets. Currently, there are a variety of methods available for making investments, including doing it on one's own or with the assistance of third parties, such as through banks, investment businesses, or non-banking financial institutions.

The behavior of investment decisions is not always aligned with the presumptions made based on the perception and comprehension of the information received (Mahastanti, 2011). Individuals tend to rely heavily on expected utility theory while making investing decisions. Expected utility theory is a risky choice that seeks to produce the most outcomes possible (Tversky & Kahneman, 1981). Decision-makers are assumed to be rational under this theory, but in practice, they were often irrational (Robison et al., 2010).

The number of investment decisions made by local investors grew in 2020. According to the OJK (2020), local investor transactions dominated the movement of the stock index throughout the first semester of 2020. In terms of the value of local investor transactions, retail investor transactions predominate. In June of 2020, 73% of all domestic transactions were made by retail investors. As of June 2020, the market has absorbed Rp. 39,66 trillion in funds, the majority of

which came through the issuance of corporate bonds, which reached Rp. 28,65 trillion (the portion of corporate bond issuance reached 72,24%).

According to the OJK (2020), after the JCI reached its lowest point at the level of 3.937,6 on March 24 2020, the JCI movement began to improve in the April to June 2020 period. Despite the pressure on the stock market during the first semester of 2020, there was still a positive side where investors domestic market was able to support the improvement in the JCI. Apart from being marked by a larger portion of transactions, the growth rate for the number of domestic investors has also continued to grow positively during this pandemic. Over the last 3 months the number of domestic investors has increased by 241.344 people, 35% of whom were students.

According to reports by KSEI, the increase in Single Investor Identification (SID) from 2012 to 2018 demonstrates that the rate of investment growth in Indonesia has accelerated dramatically. In 2018, the population expanded significantly from 1.122.688 to 1.617.358, or approximately 44,06%. (KSEI, 2018). This achieved due to the public education and outreach efforts, as well as the Indonesia Stock Exchange's (IDX) role in cooperating with PERTI (University) to build an Investment Gallery. The province of East Java has the most investment galleries, with 56 Investment Galleries and 18 Investment Galleries located in Surabaya universities (IDX, 2019).

According to (KSEI, 2018), the majority of investors in Indonesia were still between the ages of 21 and 30, comprising 39.72%. The majority of investors in this age range were students, indicating that they were already familiar with investment. Students, as a group of highly intelligent individuals, play a crucial and necessary role in shaping the future generation (Sutrisno, 2021). Students may utilize the theories they study on university to solve societal problems. Students were always required to think critically and offer solutions while addressing societal challenges (Lestari, 2015). It enables the millennial population, particularly students, to remain productive and have a large number of shops and individual enterprises or businesses. The fact that the present generation of students has created so many jobs seems to be a good invention. When interviewed to collect initial random data on financial literacy and investment decisions, many students of the Economics Study Program at the Undergraduate and Postgraduate levels at Airlangga University, Surabaya, have a high potential for investing.

Author were inspired to further examine the influence of financial literacy levels and various factors that influence investment decisions amongst active Master's level economics students at UNAIR Surabaya after being exposed to the problem of financial literacy, the relationship between financial literacy level and investment decisions, demographic factors, and socioeconomic factors. Although it has been suggested that financial literacy level and demographic characteristics have an effect on investment decisions in previous studies (N. Putri & Rahyuda, 2017)(Nur'Aini et al., 2017). The current study will focus more on other aspects that are believed to also influence investment decisions.

It was necessary to have a solid grasp of investment activities as well as the choice to make investments in order to be able to provide support for the development of investment in the millennial generation. As past research that describes the impact of financial statements on investment decisions is continued, there is a rising demand for in-depth research on how millennials might use financial statements when investing. This piques curiosity and equips all parties with necessary data.

Given the foregoing, author were curious about studying millennial generation invests using financial reports, wealth, ethnicity in the family as a basis for decisions. Students at Faculty of Economics and Business in Universitas Airlangga (FEB UNAIR) were selected as participants in

the study. The author chooses to focus on this particular social group within the millennial generation since it is the one that is physically located closest to them in their area. This allows for fewer barriers to be encountered while trying to gather information.

Student Investors from the FEB UNAIR were also chosen based on investor participation conducted by the Capital Market Study Group FEB UNAIR. The purpose of this initiative is to record and educate investors at FEB UNAIR. This action has been performed multiple times in order to provide information on the subject of research and information that investors at FEB UNAIR have received. This research was performed on an active student in FEB UNAIR in 2022 which was considered worthy of being a target with the title of the study. Based on this background, this study aims to analyze the effect of financial literacy, individual characteristics, overconfidence and risk tolerance on stock investment decisions.

## **2. Literature Review**

### **Expected Utility Theory**

The Expected Utility Theory is an example of an individualized method for arriving at a rational choice that takes into account a number of potential advantages and the utmost importance of the options under consideration (K. Kartini & Nugraha, 2015). In general, this theoretical research is frequently applied to economic and financial decision-making, with the method centered on cost-benefit analysis employing econometrics and statistics to calculate.

Neumann (2017) was the first to publish about utility theory which was expected to be a normative behavioral theory and has the aim of making rational decisions. Rational decisions owned by investors based on knowledge or information, skills and confidence in risk management analysis in investing. Risk management in investing was the result of an analysis of opportunities and consequences for both losses and profits.

### **Bounded Rationality Theory**

Bounded Rationality Theory, according to Simon (1990), describes a human restriction in problem-solving decisions based on the size of the current challenge. Furthermore, a person's cognitive potential is extremely constrained (Simon, 1990). A decision-making model that was in line with self-satisfaction could not be reached by someone who was unable to comprehend too much information. To choose the best option out of all those available, a person creating a decision-making model needs a lot of information. Although some decisions were not ideal, they were significant enough to satisfy the person making them. Evidence for bounded rationality, for instance, suggests that many of a person's choices may be neither optimal nor ideal (Salwah, 2020).

### **Financial Literacy**

According to Amisi (2012), financial literacy means the knowledge of money and financial goods that enables individuals to make informed decisions about how to manage their finances. Numerous nations have acknowledged the significance of financial literacy and established task teams to investigate their populations in order to provide education and outreach. In secondary schools, where students may be taught a variety of short courses to prepare them for handling their funds after graduation, this is a common practice.

### **Overconfidence**

Overconfidence has become a belief that someone has in excess. This leads to investors making blunders as a result of over-predicting investments because they are overconfident and underestimate the impact of potential risks. According to Nofsinger (2014), overconfidence might influence investors when estimating risk. Investors that think rationally would strive for maximum earnings while avoiding the possibility of higher losses. Investor knowledge would be a common indicator used to carry out investment plans.

### **Risk Tolerance**

According to Halim (2005), risk tolerance defines an acceptable amount of ability for investors to assume the risk of an investment. Each investor has a unique risk tolerance, which might be categorized into three categories based on preference: risk seeker, risk neutral, and risk averse. Risk seekers frequently like risk. When a risk-seeking investor was presented with two investment options that offer the same return but differing levels of risk, he would choose the option with the greater risk. This type of investor allows speculative and aggressive investing selections because he understands that return and risk are positively correlated.

### **Investment decision**

Investment choices represent decisions made to collect revenue from an asset in order to generate future profits (Novianggie & Asandimitra, 2019). Based on the previous research gap, there are several factors that influence investment decisions, including financial literacy, overconfidence, herding, risk tolerance, and risk perception. Financial literacy would be a fundamental understanding of managing funds based on information and attitudes (N. Putri & Rahyuda, 2017). A person's decision-making abilities were enhanced by their financial knowledge, and vice versa. These findings have been corroborated by previous studies Novianggie & Asandimitra (2019); Putri (2017); Sari (2021), and Chen and Volpe (1998) that demonstrate the positive influence of financial literacy characteristics. However, previous findings also reveals that financial literacy does not affect an individual's decision to invest (Fridana and Asandimitra, 2020; Budiarto and Susanti, 2017; Ariani, 2015).

### **Capital Market**

There seems to be two reasons why a country's capital market was crucial: the first is economic, and the second was financial. To serve as a support for a country's financial system by being a meeting place where investors and issuers could pursue their respective transactional objectives. Meanwhile, the financial function makes use of the capital market to allow owners of funds to gain profit (return) in accordance with the features of their chosen investment.

### **Demographic Factors**

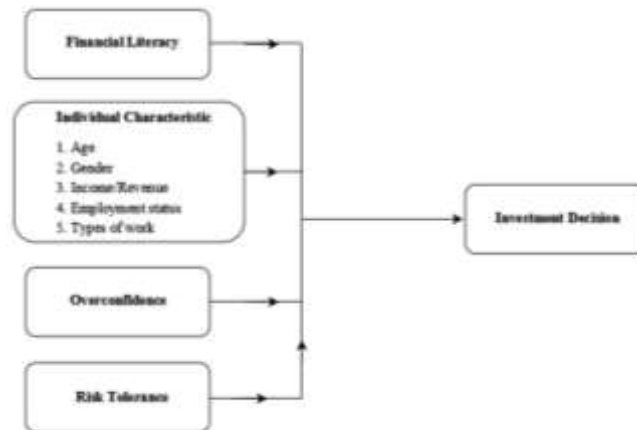
Demographic factor would be a field that analyzes the qualities, attitudes, and behaviors of a person that were already influenced by a variety of factors, including gender, educational status, and income (Ariadi et al., 2015). The decision-making process for capital market investments was heavily influenced by demographic factors. These demographic characteristics include gender, age, degree of education, income, and occupation.

### **Socioeconomic Factors**

Previous research has found that a range of socioeconomic characteristics, including as type and position of employment, personal and household income, and other wealth factors like as

interventions owned, were correlated with financial literacy and investing decisions (Al-Tamimi & Kalli, 2009; Byrn & Ives, 2009; Worthington & Lee, 2008).

### Conceptual Framework



**Figure 1. Research Conceptual Framework**

### Hypothesis

#### *The Influence of Financial Literacy on Stock Investment Decisions*

Recognizing, understanding, believing, and developing the skills necessary to effectively manage one's financial resources for future prosperity were the foundations of financial literacy (Nur'Aini et al., 2017). Because of the wide range of elements that might have an effect on an individual's financial literacy, it was important to evaluate financial literacy in the context of each person's unique set of circumstances (Kempson et al., 2006). There were still discrepancies between the findings of studies on the inclination to start a business by different researchers. For instance, a report revealed that MM students in the Faculty of Economics at Unand Padang's School of Economics benefit from a positive and significant effect of financial literacy on investment decision making (W. W. Putri & Hamidi, 2019). Consistent with other studies, previous study discovered that financial literacy significantly affects investment decision making among Bandung residents of productive age (L. G. K. Dewi et al., 2020). The following hypotheses can be derived from this description for further study:

H1 : There is a positive influence of financial literacy on stock investment decisions.

#### *The Influence of Age on Stock Investment Decisions*

It has been established that a person's physical condition can be affected by their age (Wahyuni, 2021). An individual's risk tolerance increases with age, and the opposite was also true. This occurs because as one ages, they have had the necessary information and experience to make decisions. According to research findings of Christanti and Mahastanti (2011), a more experienced investor bases their investment choices on logic. According to Wahyuni (2021), the age demographic factor has a significant value of  $0,029 < 0,05$  when compared to the test results. This indicates that age plays a role in investment decisions. This description enables the following formulation of the hypothesis:

H2: There is an influence of age on stock investment decisions.

#### *The Influence of Gender on Stock Investment Decisions*



Gender was an important factor for individuals to make decisions in their lives. In the economic aspect, men and women have differences in decision making (Kartini, 2017). Research result of Singh and Bhowal (2010) shows that gender has an effect on equity investment decisions in the present. This research is in line with research conducted by Andrew and Linawati (2014) and Loke (2018) which states that gender has a significant relationship to financial behavior and has a significant effect on individual financial management behavior. In research conducted by Jain and Mandot (2012); Khan and Clark (2016). It was also found that men are more courageous in taking on investments with more risks.

Gender plays a significant role in the decision-making processes of individuals. In the economic realm, men and women make decisions differently (Kartini, 2017). The results of a study indicate that gender influences current equity investing decisions (Singh and Bhowal, 2010). This research is consistent with previous findings which indicate that gender has a significant correlation with financial behavior and a major impact on the financial management behavior of individuals (Andrew and Linawati, 2014; Loke, 2018). In studies conducted by previous studies also discovered that men are more willing to undertake riskier investments (Jain and Mandot, 2012; Khan and Clark, 2016). On the basis of this description, the following hypothesis can be formulated:

H3: There is an influence of gender on stock investment decisions.

#### *The Influence of Overconfidence on Stock Investment Decisions*

According to Pradikasari and Isbanah (2018), overconfidence was excessive self-confidence or was possessed by investors who intend to invest. Overconfidence influences risks that could result in losses. Excessive overconfidence was not beneficial for investors. In addition to causing financial losses, it may also alter psychological state. In previous research of Budiarto and Susanti (2017), the variable overconfidence affects the investment decisions of investors linked with PT Sucorinvest Central Gani Galeri IDX, State University of Surabaya. In keeping with previous research of Dewi and Krisnawati (2020), the findings of this study indicate that overconfidence has a significant impact on investment decision making at productive ages in the city of Bandung. On the basis of this description, the following research hypotheses can be derived:

H4 : There is a positive influence of overconfidence on stock investment decisions

#### *The Influence of Risk Tolerance on Investment Decisions*

According to Salwah (2020), risk tolerance seems to be the maximum limit of an investor's ability that can be utilized as a benchmark for taking risks in investing. According to a study by Dewi & Krisnawati (2020), risk aversion has a major impact on investment decisions made by Bandung residents of productive age. Research on investing risk tolerance enables one to assess the limits of potential future losses. This is consistent with the findings of Budiarto and Susanti (2017) that the risk tolerance variable influences the investment decisions of PT. Sucorinvest Central Gani Gallery IDX Surabaya State University members. This study demonstrates that research respondents who are capital market participants have a high risk tolerance. The results of these research also were consistent with the findings of the study of Pradikasari and Isbanah (2018), which revealed that the risk tolerance variable or risk tolerance influences investment decisions based on the results of the t-test calculation. On the basis of this description, the following research hypotheses can be derived:

H5 : There is a positive influence of risk tolerance on stock investment decisions.

### **3. Research Method**

This study employs quantitative methodology. This study used an online G-Form interview questionnaire as its measurement instrument. A Likert scale would be used to measure the factors of financial literacy, overconfidence, risk tolerance, and investing decisions. Likert scale was a scale that could be used to evaluate the opinions of individuals or groups regarding social phenomena (Sugiyono, 2013).

The data utilized in this study comprises primary data and secondary data. The results of questionnaires and interviews with respondents constitute primary data. In addition to source data, the faculty of economics and business of Universitas Airlangga website, books, journals, notes, news, and published and unpublished archives provide secondary data. This study derives its data from reports on capital market investment values and inflation from the IDX (Indonesian Stock Exchange) website for the period 2019-2021, which are then processed so that the results may be correctly read or presented.

The participants in this study were all active students who were enrolled at Faculty of Economics and Business of Universitas Airlangga in Surabaya in the year 2022. There were a total of 439 students enrolled in FEB UNAIR who were also actively trading in the stock market based on academic data from faculty of economics and business of Universitas Airlangga for the year 2022. In this particular study, the entire population served as the sampling technique. The overall population was comprised of all of the respondents that were currently engaged in the process of active stock investing in the year 2022. Processing data was done with the help of the SPSS program.

### **4. Results and Discussion**

#### **4.1. Results**

Table 1 contains a more in-depth description of the characteristic.

The number of respondents in this study were 439 people. The statistical distribution of the gender variable was shown in table 1 below.

**Table 1. Gender Frequency Distribution**

<b>Gender</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Man	211	48,1
Woman	228	51,9
Total	439	100,0

Source: Processed data (2022)

Based on table 1, it was found that the respondents' gender was mostly woman, with 7 respondents (51,9%) while man were 211 respondents (48,1%). These variables were then categorized according to table 2 below.

**Table 2. Frequency Distribution of Age Categories**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Late Adolescence = 17 - 25 years	38	8.7	8.7	8.7
Early Adulthood = 25 - 35 years	310	70.6	70.6	79.3
Late Adulthood = 36 - 46 years	78	17.8	17.8	97.0
Old age => 46 years	13	3.0	3.0	100.0
Total	439	100.0	100.0	

Source: Processed data (2022)

The results obtained were that the majority of respondents were aged 25-35 years (early adulthood) as many as 310 respondents (70,6%) and at least in the elderly age range were 13 respondents (elderly) (3%).

### Multiple Linear Regression

Multiple linear regression aims to test whether the regression model contained in normally distributed research or not.

**Table 3. Multiple Linear Regression Test Results**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	9.123	1,359		6,713	.000
Age	-.006	.012	-.021	-.481	.631
Financial Literacy	.221	.023	.407	9,469	.000
Overconfidence	.073	.024	.157	3.112	.002
Risk Tolerance	.068	.031	.110	2.173	.030
Gender	.006	.139	.002	.043	.966

Source: Processed data (2022)

Based on table 3, the regression equation obtained as follows:

$$Y = 9,123 - 0,006 X_1 + 0,221 X_2 + 0,073 X_3 + 0,068 X_4 + 0,006 X_5 \dots \dots \dots (1)$$

The regression coefficient with a positive sign indicates a change in the same direction between the independent variable and the dependent variable, while the regression coefficient with a negative sign indicates a change in the opposite direction between the independent variable and the dependent variable. Current findings showed that all variables were positive except for the age variable which was negative. In addition, there was an influence of the independent variable on the dependent if the sig value <0,05. The table above also showed that the independent variables that influence the dependent variable were financial literacy ( $\rho=0,000$ ), overconfidence (0,002), and risk tolerance (0,030). As a matter of fact, there was no influence on the variables of age and gender on investment decision variables.



## Classical Assumption

### Normality Test

This test aimed to test whether the regression model contained in normally distributed research or not. As a basis for detection, the distribution of data on diagonal sources on the Normal P-P Plot normalized regression chart should be examined.

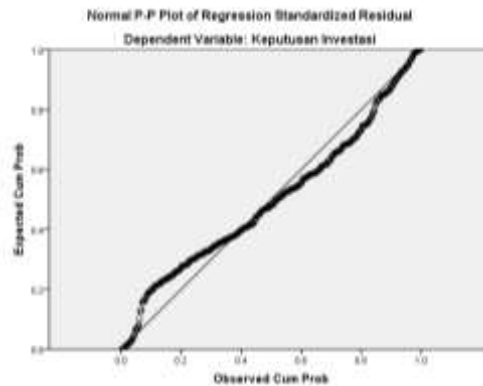


Figure 2. Normality Test Results

In the Normal PP Plot of Regression picture, the regression output reveals the results of the normal test. The regression model considered normal as the points were dispersed around the line and follow the diagonal line.

### Multicollinearity Test

To determine the presence of multicollinearity, we may examine the Variance Inflation Factor (VIF) and Tolerance values. If the VIF value was less than 10 and the Tolerance was greater than 0.1, there would be no multicollinearity.

Table 4. Multicollinearity Test Results

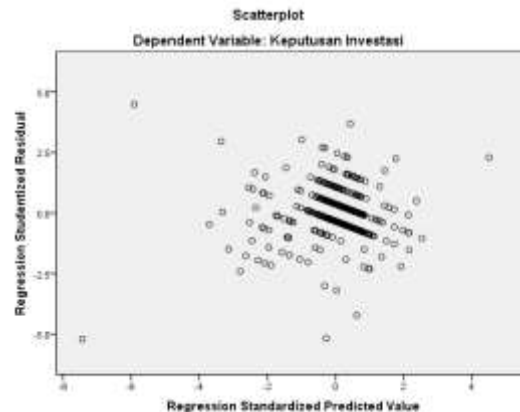
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	9.123	1,359		6,713	.000		
Age	-.006	.012	-.021	-.481	.631	.973	1028
Financial Literacy	.221	.023	.407	9,469	.000	.964	1037
overconfidence	.073	.024	.157	3.112	.002	.699	1,430
Risk Tolerance	.068	.031	.110	2.173	.030	.696	1,437
Gender	.006	.139	.002	.043	.966	.955	1048

Source: Processed data (2022)

The table 4 test results demonstrate that there was no multicollinearity issue. As can be seen, the VIF values for the independent variables were all less than 10, and the tolerance was more than 0.1.

#### Heteroscedasticity Test

In this test, if the points spread in an unclear pattern above and below the number 0 on the Y axis, there was no heteroscedasticity problem.



**Figure 3. Heteroscedasticity Test Results**

The results of the heteroscedasticity test in the figure above shows that the dots does not form a specific pattern and the dots spread above and below zero on the Y axis, so it can be concluded that there was no heteroscedasticity in the regression model.

#### Autocorrelation Test

The autocorrelation test aimed to test whether the linear regression model has a correlation between confounding errors in period t and errors in period t-1 or earlier. Value lies between Du to (4-Du). The results of the autocorrelation test can be seen in table 5 as follows.

**Table 5. Autocorrelation Test Result**

Model	R	R Square	Adjusted R Square	std. Error of the Estimate	Change Statistics					Durbin - Watson
					R Square Change	FChange	df1	df2	Sig. FChange	
dimension 1 0	.478 <sup>a</sup>	.228	.219	1.418	.228	25.619	5	433	.000	1.918

Source: SPSS Data Processing (2022)

Based on the table above, the Durbin Watson value was 1,918, which was the same as the Du value. Meanwhile, the value of 4-Du was 2,082. In the Durbin Watson test table with many independent variables ( $k = 5$ ) and  $N = 439$ , the value of the Durbin Watson table was 2,082. Hence, it can be concluded that there was no autocorrelation symptom.

#### Partial t test Results

The partial regression coefficient hypothesis (t test) was aimed to determine the effect of each independent variable individually on the dependent variable in one model. The results of the partial t test can be seen in table 6 below.

**Table 6 Partial t test results**

<b>Variable</b>	<b>Significance Level</b>
Age	0,631
Gender	0,966
Financial Literacy	0,000
Overconfidence	0,002
Risk Tolerance	0,030

Source: SPSS Data Processing (2022)

Based on the table above, it can be explained as follows:

1. The age variable has a significance of 0,631. This significance value was greater than 0,05, thus it can be stated partially that there was no significant influence of the age variable on investment decisions.
2. The gender variable has a significance of 0,966. This significance value was greater than 0,05, thus it can be stated partially that there was no significant influence of the gender variable on investment decisions.
3. The financial literacy variable has a significance of 0,000. This significance value was less than 0,05, thus it can be stated partially that there was a significant influence of the financial literacy variable on investment decisions.
4. The overconfidence variable has a significance of 0,002. This significance value was less than 0,05, so that it can be partially stated that there was a significant influence of the overconfidence variable on investment decisions.
5. The risk tolerance variable has a significance of 0,030. This significance value was less than 0,05, so that it can be partially stated that there was a significant influence of the risk tolerance variable on investment decisions.

#### **Simultaneous F Test Results (F Statistical Test)**

The F test was used to find out the independent variables together have a significant effect on the dependent variable.

**Table 7. Simultaneous Significance Test Results (F Test)**

ANOVA <sup>b</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	257.441	5	51.488	25.619	.000 <sup>a</sup>
	Residual	870.213	433	2.010		
	Total	1127.654	438			

Source: SPSS Data Processing (2022)

Based on table 7 above, it can be concluded that the variables age, gender, financial literacy, overconfidence, risk tolerance all have an influence on investment decisions. This was indicated by the significance level  $<0,05$  ( $0,000 < 0,005$ ).

## **4.2. Discussion**

### **The Influence of Financial Literacy on Stock Investment Decisions**

The results of the study explain that the financial literacy variable has a value of 0.000, where the value was  $<0.05$ . It can be concluded that there was a significant influence between financial literacy and investors' investment decisions in the FEB UNAIR students. This finding was in line with previous research which claims that there was an influence between financial literacy and investment decisions (Putri & Hamidi, 2019). In this case, (Putri & Hamidi, 2019) explained about the close relationship with individual financial management which includes investment decisions, asset management and good funding for MM Unand Padang students. Someone who understands and has an understanding of finance or financial literacy will have basic knowledge of the main financial concepts (OECD, 2013). Therefore, knowledge of finance was the main feature of financial literacy (Huston, 2010).

The better a person's financial literacy, the wiser the person made investment decisions. Conversely, if a person's financial literacy was poor, then that person's financial management may not be wise. In current investigation, research respondents who filled out the questionnaire had a very high understanding of financial literacy, getting a score of 50 in table above. This proves that there was a strong correlation between the high understanding of financial literacy, the likelihood that investors own shares (Van Rooij et al., 2011). The above conclusions were in line with the results of the study by (Awais et al., 2016) that the decision to invest in stocks was greatly influences the understanding of each person's financial literacy.

### **The Influence of Age on Stock Investment Decisions**

The findings above concluded that age has no significant effect on investment decisions. Age has no effect on investment decisions due to the dominance of student respondents who were still classified as young investors and tend to be dominantly aged 25-35 years as much as 70,6%. In these age, someone has a tendency not to think long term to make an investment decision. This was in line with research by (R. A. Putri & Yuyun, 2020) that age has no effect on investment decisions because it does not always emphasize the knowledge possessed when making investment decisions. In addition, this finding also in line with research carried by (Tanusdjaja, 2018) for the age variable, it shows a coefficient of -1,796, which means that investors under 30 years of age (score 1) have unfavorable investment decisions compared to investors over 30 years of age. In other words, if investors under the age of 30 made stock transactions, their investment decisions would decrease by -1,796 units. On the other hand, if investors over 30 years of age made stock transactions, their investment decisions would increase by 1.796 units assuming other variables were constant. As such, it can be concluded that the age variable has no effect on investment decisions.

However, this finding was different from previous study (Wahyuni, 2021) that demographic factors (age) affects investment decisions. Age as an indicator of old age considerations for investors makes them very careful and does not want to spend excessive money to make investment decisions that would burden investors. In other words, the older the investors, the wiser they were in making investment decisions.

### **The Influence of Gender on Stock Investment Decisions**

The results of the regression test assessment obtained data on the gender variable which was 5% greater (0,966). This indicates that there was no influence between gender and investment decisions in the FEB UNAIR students. The results of this assessment were in line with research

by (Putri & Yuyun, 2020) that gender has no effect on investment decisions. This was because womans typically play it safe and lack the confidence to make bold life choices. Meanwhile, a man was more likely to take charge and be decisive.

Empirical study results also found the impact of one demographic variable, gender, on investors' investment patterns (Chavali & Mohanraj, 2016). Male investors spend more time and money analyzing securities, rely less on brokers, and trade more than female investors (Lewellen et al., 1977). In addition, the difference in trading frequency between man and womans investors was more pronounced for married investors. By trading more, mans investors earn lower profits than womans investors. In this case, mans investors were also more risk tolerant than womans (Wood & Zaichkowsky, 2004). Womans (investors) tend to be more conservative, spend more on long-term investments, rely more on brokers, and were less risk tolerant than man (investors). Furthermore, mans often use the internet or online trading more than woman. Although both men and woman tend to be overconfident, men have a higher level of self-confidence and risk tolerance than woman (Lundeberg et al., 1994). As a result, man place more of their funds in riskier assets, such as stocks, than less risky assets, such as savings, time deposits or bonds.

### **The Influence of Overconfidence on Stock Investment Decisions**

The findings revealed that there was a correlation between the influence of overconfidence on investment decisions. This was because the overconfidence variable has a significance value of 0,002 or  $< 0,05$ . This findings was similar to previous research (Adiputra, 2021) that overconfidence has a significant effect on investment decision making. Therefore, in making investment decisions, the importance of analysis is a must. Information regarding the source of investment or the company someone seeks to invest in was very clear. Luck couldn't be relied upon, and being lucky would lead one to be overconfident. As a result, the mind became irrational and leads to uneffective decision. This agrees with the previous theory (Khan et al., 2016) that overconfidence defined as a perception believed by investors to always be lucky as they felt they were always experts in making investment decisions. Having a high level of trust was also essential and should be balanced with a lot of learning and experience, because a lot of knowledge and skills about the stock market would certainly help investors to outperform the stock market. Hence, it is said that excessive overconfidence and relying only on luck will make someone overestimate information and become irrational in their way of thinking about investing.

Research result by Budiarto & Susanti (2017) explains that there was an influence between the overconfidence variable (sign value 0,025  $< 0,05$ ) on investment decisions. In line with the results of this study, an investor with high overconfidence would be more courageous in making investment decisions. On the other hand, if someone has a low level of overconfidence, they would tend to be more careful in making investment decisions. Investors in the FEB UNAIR students dominantly has a high enough overconfidence ability so that the results obtained were that many made decisions to invest in stocks. Apart from learning, overconfidence was carried out by students who felt confident that they would get benefits in investing. This point was in line with another previous research (Kartini & Nugraha, 2015), (Chandra & Linawati, 2014) and (Umairoh, 2012) which concluded that overconfidence affects investment decisions.

### **The Influence of Risk Tolerance on Stock Investment Decisions**

This study produces a significance value of 0,030 ( $< 5\%$ ), which means that there was an influence between risk tolerance and investment decisions. According to the results of the



description of the respondents, most of the respondents has a high level of tolerance. The higher the risk tolerance, the greater the level of ability received by investors in taking investment risks. This agrees with research performed by Budiarto & Susanti (2017), partially the results of statistical testing of the risk tolerance variable affect the investment decision of investors at PT. Sucorinvest Central Gani Galeri Investasi BEI Universitas Negeri Surabaya.

Theoretically, risk tolerance was something that could affects a decision to take an investment plan. The level of risk tolerance for each person was influenced by various factors such as age, gender, income, wealth, and investment experience. This was in line with the results of research by (Wulandari & Iramani, 2014), (Bailey & Kinerson, 2005; Yohnson, 2008). The higher the risk tolerance, the lower the possibility of choosing low-risk assets or high risk tolerance, the greater the possibility of having higher-risk assets (Hariharan et al., 2000). Investors who has a high risk tolerance would invest in the capital market, while investors who has a low risk tolerance were more dominant in investing in bank account assets (Yohnson, 2008). Investor risk tolerance was closely described as a stable personality characteristic, where each person was more likely to choose the same level of risk in various situations (Figner & Weber, 2015). Even so, the nature of investor subjectivity in taking investment risk tends to be very difficult to document properly even though the risk tolerance was high (Putri, 2017).

## **5. Conclusion**

Based on the findings of the research analysis and the discussion in the preceding chapter, the following are the study's conclusions:

1. The results of the study explain that the financial literacy variable has a value of 0,000, where the value is  $<0,05$ . It can be concluded that there is a significant positive influence of financial literacy on stock investment decisions in the FEB UNAIR students. This is supported by the data that respondents who filled out the questionnaire had a mean value of 43,58%, which means that most respondents have high financial literacy to decide to invest.
2. The age variable has a value of 0,631, where the value is  $> 0,05$ , which means that there is no influence of the age variable on stock investment decisions. This is because as many as 70,6% of respondents are aged 25-35 years which in theory are still not mature enough to make investment decisions.
3. The gender variable has a test result value of 0,996, where the value is  $> 0,05$ , which means that there is no significant effect of gender on stock investment decisions. This is reinforced by the results of the questionnaire filled out by respondents as much as the risk tolerance variable of 51,9% is woman, meaning that the average tendency of women is in a safe zone and less courageous in making a decision to get a big risk in investing.
4. The overconfidence variable has a test result value of 0,002, where the value is  $<0,05$ , which means that there is a significant positive influence of overconfidence on stock investment decisions. This statement is strengthened by the results of the average (mean) variable overconfidence, meaning that the average respondent who filled out the questionnaire had an overconfidence of 31,45 or on average had excessive thinking about predictions for investing which was quite high.
5. The risk tolerance variable has a test result value of 0,03, where the value is  $<0,05$ , which means that there is a significant positive influence of risk tolerance on stock investment decisions. This is reinforced by the results of the average (mean) risk tolerance variable of

23,56, meaning that the average respondent has a level of ability that is acceptable from the risk of loss to high stock investment.

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