

Research.

## The Effect Between Behavioral Biases and Investment Decisions Moderated by Financial Literacy on the Millennial Generation in Jakarta

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**Abstract:** *The purpose of this research was to analyze the effect of financial literacy and behavioral bias on investment decisions in the millennial generation in DKI Jakarta. This research uses quantitative data by distributing questionnaires. The population of this research is people who live in DKI Jakarta and its surroundings. There are as many as 125 respondents in the research conducted. The data collection method used a questionnaire and for the data analysis method in this research using the SEM analysis tool. The findings of this research indicate that overconfidence bias and risk-aversion bias have a significant effect on investment decisions. Meanwhile, herding bias, disposition effect, and financial literacy have no significant effect on investment decisions.*

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**Keywords:** *behavioral bias, millennial generation, financial literacy, investment decisions*

### INTRODUCTION

Recently, various investment modes have been popular and an investor tends to make investment decisions differently for each individual. Economic theory says that every individual is rational in making decisions and will make decisions according to the information they already have and are available (Baihaqqy et al., 2012). Over time, an investor becomes difficult to make a decision because they have to consider various factors before an investor makes a decision. Interest in investing in Indonesian society has increased every year. The high investment interest of the Indonesian people shows that the Indonesian people are starting to realize the importance of investing.

The establishment of an Investment Gallery will provide millennials with a better financial understanding of the capital market. With the development of technology and information, people are very happy to consume today, especially investing to prepare for the future of millennials (LP Putri, 2018). The millennial generation is a generation born in the range of 17-36 years (Yolanda & Tasman, 2020). Currently, the millennial generation has begun to understand financial literacy and is starting to use their funds to make investment decisions. According to IR Putri & Tasman (2019), the millennial generation is the first generation to grow and develop with the internet, so it will be easier for millennials to access financial information and apply it directly in their lives.

Investments made by an investor have the purpose of getting an expected return or an increase in the value of assets in the future (Addinpujoartanto & Darmawan, 2020). The options available for investors to invest part of their capital are very diverse. There are various kinds of investment instruments available in Indonesia such as ORI, stocks,

**Natasya; Dyah Hayu Kusumastuti; Widya Alifia; Farah Margaretha Leon. The Effect Between Behavioral Biases and Investment Decisions Moderated by Financial Literacy on the Millennial Generation in Jakarta**

bonds, mutual funds and others. If the prosperity of an investor has increased, it can be seen that the investment of an investor has made a profit (Pratama et al., 2020).

The investment decision-making process is a process where an investor decides what type of investment to make, how much investment to take and when to invest. Decision making is a situation that covers all aspects, involves various dimensions and the process of choosing from a variety of available options. Several studies have stated that an investor tends to make investment decisions that are not fixed regarding their investment, resulting in a less favorable investment performance (Adil et al., 2021).

The increasing number of financial products and the increasing number of individual needs that must be met requires every individual to be able to manage their finances properly. Financial literacy and financial behavior are needed by every individual well in managing limited resources effectively and efficiently for the welfare of each individual's life. Data and information are the most important factors in the analysis to determine an investment decision for investors (Pratama et al., 2020).

Individual decisions related to financial matters require a good understanding of finance. A good understanding of financial issues is known as financial literacy. The better the financial literacy that each individual has, the more prosperous his life will be. The existence of high financial literacy will be able to increase economic growth in the community. Much of the literature states that financial literacy is now documented worldwide as an important component of economic and financial stability. Financial literacy can help in managing financial resources effectively (Adil et al., 2021).

This research purposes to examine the effect of behavioral bias and investment decision moderated by financial literacy on the millennial generation in DKI Jakarta with respondents aged between 18-34 years, where the age range of 18-34 years is a productive age according to data from the Central Agency on Statistics.

## **LITERATURE REVIEW**

### **1.1 Behavioural Biases**

#### **1. Overconfidence Bias**

Overconfidence is a condition in which an investor feels too confident, a feeling of how well the individual understands the abilities and knowledge they have (Supramono & Wandita, 2017). Overconfidence bias is often experienced by novice investors who want to quickly get a return from some of the funds they have invested and want to get a high return on the capital they have invested with confidence in their own establishment. If one is overconfident then one will overestimate skills. The knowledge and insight they have, they tend to underestimate the risks they will face. Most of the people who are currently investing in making their investment decisions carry out first analyzes such as fundamental analysis,

Making decisions in an investment is not an easy thing to do (Farooq & Sajid, 2015). Making investment decisions is not an easy thing because making an investment decision requires good analytical skills. Making investment decisions is not an easy thing because making an investment decision requires good analytical skills. The consequence of people who have overconfidence is that an investor will overestimate their ability to evaluate a company as a seemingly good investment, do overtrading and don't really consider the risks that exist (Afriani & Halmawati, 2019).

Overconfidence bias is often experienced by novice investors who want to quickly get profits in investing. Research conducted by Adil et al. (2021) found that overconfidence bias does not have a significant effect on investment decisions for investors in India. Primary et al. (2020) conducted research on the Indonesia Stock Exchange and found that overconfidence bias does not have a significant effect on investment decisions for investors on the Indonesia Stock Exchange. Supported in Afriani & Halmawati's research (2019) in their research entitled "The Effect of Cognitive

Dissonance Bias, Overconfidence Bias and Herding Bias on Investment Decisions," it was found that overconfidence bias has no significant effect on investment decisions.

H<sub>1</sub>: There is an effect of Overconfidence bias on investment decision

## **2. Herding Bias**

Herding bias is the behavior of an investor who tends to follow other investors in making decisions because they have low self-confidence, this kind of investor tends not to do fundamental analysis first so that the formed market becomes inefficient (Pratama et al., 2020). Herding bias occurs because the information held by an individual is more influenced by information held by the public about group or individual decisions (Areq et al, 2019). The case most often encountered in society in the financial sector is that an individual investor tends to follow the investment decisions of most people instead of being cautious and rational about assessing his own decisions independently.

Making a decision means choosing one of the available alternatives from all the available options. If we look at it from the investment context, we will choose a good investment and one that will provide maximum profit. Economic theory says that the readiness of an investor is to be rational where they will first evaluate all available information before making a decision (Qasim et al., 2019). Research conducted by Adil et al. (2021) stated that there is an effect of herding bias on investors' decisions in taking investments.

An investor tends to follow other investors in making investment decisions, if other investors choose to invest in stock A, other investors tend to follow to choose stock A. Supported by research conducted by Adil et al. (2021) it was found that both male and female respondents tended to follow the advice given by a broker or their friend in deciding to invest. Research conducted by Addinpujoartanto & Darmawan (2020) found that herding bias has a positive influence on investment decision making. Wendy (2021) states that herding bias has a positive influence on an investor's investment decision.

H<sub>2</sub>: There is an effect of Herding Bias on investment decision

## **3. Disposition Effect**

The disposition effect is the tendency of investors to sell stocks that perform well and hold stocks that perform poorly, which they believe will increase in value (Toma, 2015). Investors tend to sell stocks that perform well (winners) and hold on to stocks that perform poorly (losers). This condition is often encountered by an investor in the capital market. This condition will harm an investor because stocks that provide profits that are sold will continue to perform well, while stocks that provide losses that are held continuously will actually worsen their performance (Wendy, 2021).

The disposition effect is an anomaly in behavioral finance because in the disposition effect investors tend to sell fast stocks that are performing well and will hold stocks that perform poorly and cause losses (Wendy, 2021). An investor will hold stocks when the price is down and will immediately sell stocks when the price is just starting to rise. In the research of Adil et al. (2021) found that the disposition effect has an influence on investors in making investment decisions.

Research conducted by Toma (2015) shows that investors tend to have a disposition effect when making decisions to invest. There is a disposition effect on the decision making of an investor in making an investment (Adil et al., 2021). Wendy's research (2021) states that there is a disposition effect on an investor's investment decisions.

H<sub>3</sub>: There is a disposition effect on investment decision

#### **4. Risk-aversion**

Risk-aversion is the tendency of an investor to prioritize certainty over uncertainty. In risk-aversion, an investor tends to avoid risk and minimize the occurrence of risk. Risk averse investors are investors who seek low-risk investment opportunities to reduce potential losses. Statman (2012) states that professional portfolio managers are less prone to take risks when making investment decisions. Risk aversion is the individual's desire to avoid the uncertainty that exists in the capital market. Investors will feel the risk after they determine it, the risk-seeking and risk-averse of an investor will change in various situations. Adil et al. (2021) say that there is an influence on risk aversion in an investor's investment decision.

An investor will avoid risk in a profitable situation by selling shares and will refrain from selling shares in a loss condition (risk avoidance analysis on investment decisions in the Indonesian capital market). Research conducted by Susilawaty et al. (2018) conducted in Indonesia in 2018 shows that risk-aversion has a negative effect on an investor's investment decisions. This research is not in line with the research conducted by Qureshi et al. (2012) in this research it was found that risk-aversion has a positive influence on an investor's investment decisions. There is a negative effect on risk-aversion on an investor's decision making in investing (Adil et al., 2021).

H<sub>4</sub>: There is an effect of Risk-Aversion on investment decision

#### **5. Financial Literacy**

Financial literacy is an understanding or knowledge of finance that can influence a person in applying and managing finances in his life with the purpose of achieving prosperity. In making an investment decision, an individual will be driven by financial literacy, this can be seen from how an individual manages their finances (Baihaqqy et al., 2012). People can be said to have high knowledge of financial literacy if they are able to manage and plan their finances for the future, there are still many people who have a lack of financial literacy, both in the form of basic knowledge and more complex knowledge. According to Lusardi & Mitchell (2014) the importance of financial literacy has grown, with the increase in financial products and the number of financial products and the increasing importance of choosing financial products by households.

When someone makes a decision to invest, the individual is expected to have good financial literacy. Research conducted by Baihaqqy et al. (2012) revealed that financial literacy has a significant influence on an individual's investment decisions. According to research conducted by Ni Putu Priscilia Kartika Dewi & Krisnawati (2020) stated that financial literacy has a significant effect on investment decision making in the productive age conducted in the city of Bandung. Financial literacy plays a positive and significant role in making an investor's decision to invest (Adil et al., 2021).

H<sub>5</sub>: There is an effect of financial literacy on investment decision

#### **6. Investment Decision**

An investment requires high skills for the actors, especially the ability in affective, emotional and cognitive aspects such as: the ability to process data and information, both financial data and non-financial data, knowledge and experience in analyzing fundamental and technical information in investment, investment preferences, perceptions of investment risks and benefits, as well as the ability to take lessons from the investment process (Nofsinger, 2016).

Various previous studies have shown that behavior bias and financial literacy have a significant influence on the behavior of an investor. However, the relationship between the two theories has not been studied in depth and research has not observed financial literacy as a moderating variable between behavior bias and the decision to invest. It is important to know financial literacy and behavior bias to understand the behavior of investors. Financial literacy moderates the relationship between overconfidence bias, herding bias, risk-aversion bias and disposition bias with investment

**Natasya; Dyah Hayu Kusumastuti; Widya Alifia; Farah Margaretha Leon. The Effect Between Behavioral Biases and Investment Decisions Moderated by Financial Literacy on the Millennial Generation in Jakarta**

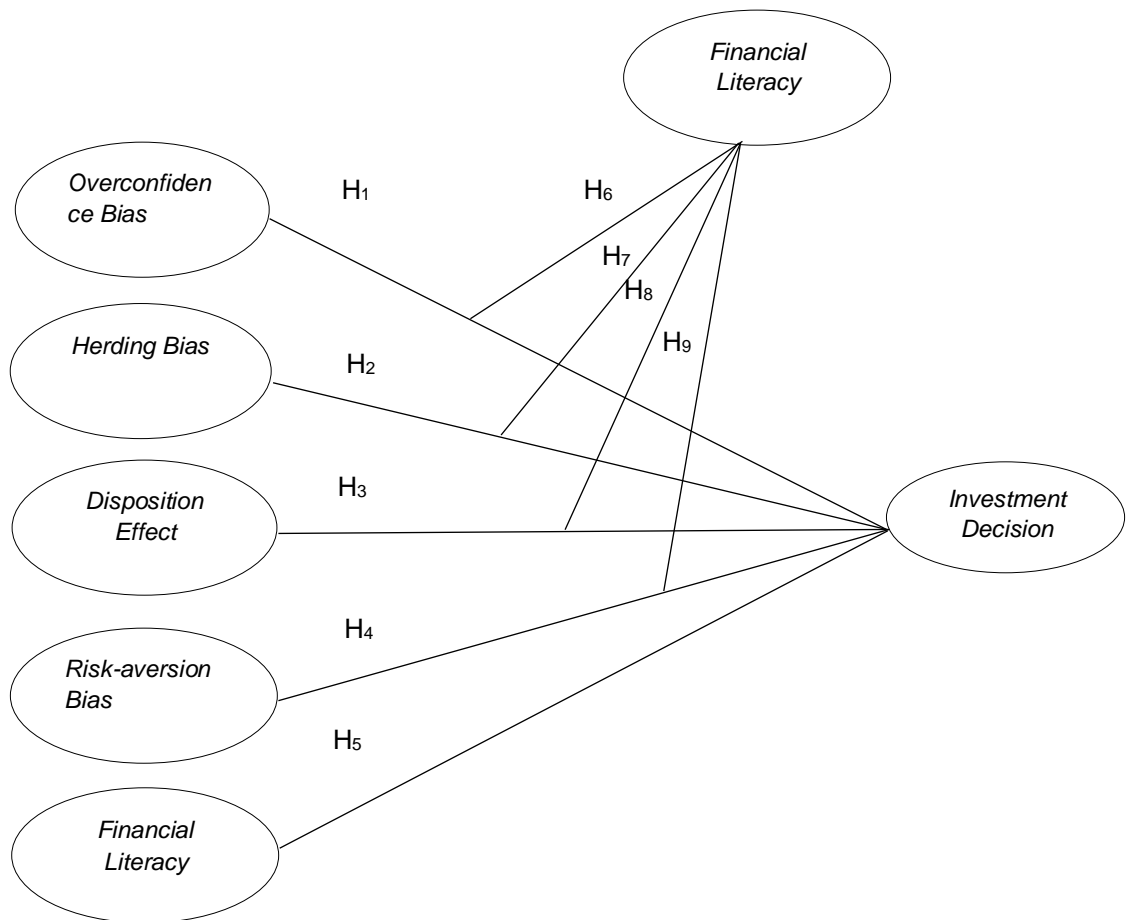
decisions (Adil et al., 2021). Research conducted by Wendy (2021) states that financial literacy moderates herding bias, overconfidence bias, disposition effect, conservatism and availability on investment decisions.

H<sub>6</sub>: *Financial literacy moderates the effect between overconfidence bias and investment decision*

H<sub>7</sub>: *Financial literacy moderates the effect between herding bias and investment decision*

H<sub>8</sub>: *Financial literacy moderates the effect between risk-aversion bias and investment decision*

H<sub>9</sub>: *Financial literacy moderates the effect between disposition effect bias and investment decision*



**Figure 1.**  
**Thought Framework Chart**

## RESEARCH METHODS

### Variables and Measurements

The variables contained in this research were measured with the purpose of knowing the influence between the independent variable and the moderating variable on the dependent variable. Measurement of variables in this research using a scale of 1-5, where a scale of 1 indicates strongly disagree and a scale of 5 indicates strongly agree.

**Table 1.**  
**Variable Identification and Measurement**

Variable Type	Variable Name	Indicator
Independent Variable	Overconfidence bias	I have the ability to make the right investment decisions
		I am confident in my ability to do better than anyone else in investment decisions
		I have the ability to control the results according to the investment objectives
		I have knowledge of financial markets
	Herding bias	My peer group's decision in choosing the type of stock also affects my stock selection
		I am also influenced by my peer group to invest
		I usually prefer to follow the changing investment decisions of my peer group
		I choose stocks according to tips from peers, financial advisors and the media
	Disposition Effect	I avoid selling stocks whose market value consistently drops and will sell stocks with consistently rising market prices
		I would not choose to hold on to a stock for too long whose market value continues to fall
		I prefer to hold stocks whose intrinsic value is greater than the market value
		I prefer to sell stocks at a decreasing price
		I prefer to hold stocks at an inflated price
	Risk-Aversion	I prefer to hold a large number of fixed income securities in my portfolio
		I feel comfortable investing in new instruments
If I get profit from my previous investment, then I will try to take the risk in my future investment		
I will definitely invest some money in stocks		
I prefer to invest in stocks than keep money in a bank account		
Moderating Variables	Financial Literacy	Do you think investing in more than one stock is safe? Do you agree that inflation has an impact on investment? Do you agree that the time value of money and risk return trade off has an impact on investment?
Dependent Variable	Investment Decision	Your recent stock returns have met your expectations I'm considering the government's statement about companies You are satisfied with your trading frequency and trading volume I consider the company's past performance before making an investment

### Sampling Method

In this research, the sampling method used was a combined cross-sectional method and collected data with a sample of 125 respondents. The data used for this research is sourced from the results of a survey that will be conducted by distributing online questionnaires via google form. The criteria for sampling:

1. Minimum age of 18 years
2. An Indonesian citizen domiciled in Jakarta

**Natasya; Dyah Hayu Kusumastuti; Widya Alifia; Farah Margaretha Leon. The Effect Between Behavioral Biases and Investment Decisions Moderated by Financial Literacy on the Millennial Generation in Jakarta**

3. Currently or have invested in stocks and mutual funds

This research uses a measurement with a scale of 1-5 where a scale of 1 indicates strongly disagree and 5 indicates strongly agree.

**Research Instrument Test**

**Table 2**  
**Respondent Demographics**

Demographics	Number of Respondents	Percentage (%)
<b>Sex</b>		
Male	31	24.8%
Female	94	75.2%
<b>Age</b>		
18-24 year	111	88.8%
25-34 year	10	8.0%
> 35 year	4	3.2%
<b>Level of education</b>		
Seior High School	30	24.0%
Bachelor Degree	90	72.0%
Master Degree	5	4.0%
<b>Investment experience</b>		
0-1 years	97	77.6%
1-3 years	24	19.2%
> 3 years	4	3.2%

**Validity Test**

Validity test is used to measure whether a questionnaire is valid or not. The testing technique that will be used to test the validity is the Bivariate Pearson correlation. This analysis uses how to correlate each item's score with the total score. Question items that are significantly correlated with the total score indicate that these items are able to provide support in revealing what they want to reveal. The criteria for whether or not the validity test is valid are:

If sig from  $r > 0.50$  Ho rejected (valid indicator)

If sig from  $r < 0.50$  Ho accepted (invalid indicator)

**Table 3**  
**Validity Test**

Variables	Indicators	Loading Factor	Decision
Overconfidence bias	OB1	.876	Valid
	OB2	.909	
	OB3	.874	
	OB4	.836	
Herding bias	HB1	.898	Valid
	HB2	.887	
	HB3	.794	
	HB4	.824	
Disposition effect	DE1	.687	Valid
	DE2	.732	
	DE3	.799	
	DE4	.568	
	DE5	.617	
Risk-aversion	RA1	.701	Valid
	RA2	.734	
	RA3	.783	
	RA4	.801	
	RA5	.823	

**Natasya; Dyah Hayu Kusumastuti; Widya Alifia; Farah Margaretha Leon. The Effect Between Behavioral Biases and Investment Decisions Moderated by Financial Literacy on the Millennial Generation in Jakarta**

Financial literacy	FL1	.753	Valid
	FL2	.828	
	FL3	.809	
Investment decision	ID1	.780	Valid
	ID2	.805	
	ID3	.810	
	ID4	.800	

Source: Data processed using SPSS

Table 3 shows that all indicators of each variable have a sig of  $r > 0.50$ , meaning  $H_0$  is rejected and the indicator is declared valid.

### Reliability Test

Reliability test is used with the purpose of testing whether the instrument used is reliable. In the reliability test, is considered reliable if it is greater than 0.6. The criteria for the reliability test:

1. If the magnitude of the Cronbach's Alpha reliability test is greater than 0.6 then the data is reliable, the questionnaire can be trusted and can be used
2. If the Cronbach's Alpha reliability test is less than 0.6 then the data is not reliable, then the questionnaire cannot be trusted and cannot be used.

**Table 4**  
Reliability Test

No	Variables	Number of Question Items	Cronbach's Alpha	Remarks
1	<i>Overconfidence bias</i>	4	0.896	Reliable
2	<i>Herding bias</i>	4	0.873	Reliable
3	<i>Disposition effect</i>	5	0.705	Reliable
4	<i>Risk-aversion bias</i>	5	0,826	Reliable
5	<i>Financial literacy</i>	3	0,711	Reliable
6	<i>Investment decision</i>	4	0,810	Reliable

Source: Data processed using SPSS

Table 4 shows the value of Cornbach's Alpha as a result of the reliability test of each variable instrument. Each indicator in each variable shows that all values of Cornbarch's Alpha are greater than 0.6, meaning that all indicators used in the research variables are reliable.

### Classic Assumption Test

Classical assumption test is an analysis used to assess whether in linear regression there are classical assumptions. There are four types of classical assumption tests used in this research, namely:

**Natasya; Dyah Hayu Kusumastuti; Widya Alifia; Farah Margaretha Leon. The Effect Between Behavioral Biases and Investment Decisions Moderated by Financial Literacy on the Millennial Generation in Jakarta**



**1. Normality Test**

This test was conducted to test that the regression formulated was normally distributed. To see if the normal test can be tested using the Kolmogorov-Smirnov technique. If the calculation results show sig from KS-Z > 0.05 then the data distribution is normal. The results of the one sample Kolmogorov-Smirnov test can be seen that the data is normally distributed with a significance value of 0.672.

**2. Multicollinearity Test**

This test is conducted to test whether there is a correlation between the independent variables or not. To see if there is multicollinearity in the regression model, the value of the VIF can be seen, if  $VIF > 10$ , it means that the error distribution data is normal. then there is multicollinearity. From the results of the multicollinearity test, it is known that there is no multicollinearity because all independent variables are greater than 10.

**3. Heteroscedasticity Test**

To see if there is heteroscedasticity in the regression model, it can be done by analyzing the scatter plot diagram, if the pattern of dots on the diagram is spread out, the regression model is free from heteroscedasticity. Another way to test heteroscedasticity is the Gletsjer Test, namely by regressing absolute residuals with independent variables, if the value of sig t > 0.05 then there is no heteroscedasticity regression. Another way to test heteroscedasticity is the Gletsjer Test, namely by regressing absolute residuals with independent variables, if the value of sig t > 0.05 then there is no heteroscedasticity regression. According to the results of the Gletsjer Test, it shows that there is one independent variable that is not significant, namely the overconfidence bias variable.

**4. Autocollinearity Test**

This test is conducted to test whether there is a correlation between the current residual and the previous one. Effective data is data that is free from autocollinearity. This test was conducted using the Durbin Watson (DW) Test criteria. From the results of the calculation of the calculated DW value of 1995, it is found in areas where there is no autocorrelation so that it can be concluded that it is free from autocorrelation.

**Data Analysis Method**

**Descriptive Statistics Test**

Descriptive statistics are methods related to the collection and presentation of data so as to provide useful information. Descriptive statistics function to describe or provide an overview of the object under research through sample or population data.

**Goodness of Fit Test (R<sup>2</sup>)**

The R<sup>2</sup> test is used to test whether it is able to measure how far the model is likely to explain the variation of the dependent variable. The results of the R<sup>2</sup> test can be seen in the model summary table in the R Square column. The higher the value of R<sup>2</sup> or close to number one, it can be concluded that the value is getting better. The results show that the goodness of fit value is 0.679, which means that the ability of the independent variables, namely financial literacy, disposition effect, herding bias, overconfidence bias and risk aversion in explaining the independent variable, namely investment decision, is 67.9%

and the remaining 32.1% are other independent variables that can be used. influence investment decisions but are not included in the model.

## RESULTS AND DISCUSSION

### Descriptive Statistical Analysis

The R2 test is used to test whether it is able to measure how far the model is likely to explain the variation of the dependent variable. The results of the R2 test can be seen in the model summary table in the R Square column. The higher the value of R2 or close to number one, it can be concluded that the value is getting better. The results show that the goodness of fit value is 0.679, which means that the ability of the independent variables, namely financial literacy, disposition effect, herding bias, overconfidence bias and risk aversion in explaining the independent variable, namely investment decision, is 67.9% and the remaining 32.1% is according to the test results in the table. According to the results of descriptive statistical analysis, it is known that the number of respondents as many as 125 out of 125 respondents, the overconfidence bias variable has a mean value of 3,4500 with a standard deviation of 0. 99803. The maximum value is 5.00 and the minimum value is 1.00. The disposition effect variable has a mean value of 3.5808 with a standard deviation of 1.01650. The maximum value is 5.00 and the minimum value is 1.00. The risk-aversion variable has a mean value of 3.6928 with a standard deviation of 0.90422. The maximum value is 5.00 and the minimum value is 1.00. The herding bias variable has a mean value of 3.6860 with a standard deviation of 0.93171. The maximum value is 5.00 and the minimum value is 1.00. financial literacy variable has a mean value of 4.0373 with a standard deviation of 0.85897. The maximum value is 5.00 and the minimum value is 1.00. The investment decision variable has a mean value of 3.7660 with a standard deviation of 0.85403. The maximum value is 5. 00 and the minimum value is 1.00. The standard deviation value of the respondents' answers to the six variables is > 0.5. It can be concluded that each question item is said to be quite varied.

**Table 6**  
**Descriptive Statistical Analysis Results**

	<i>Overconfid ence Bias</i>	<i>Disposition effect</i>	<i>Risk- aversion</i>	<i>Herding bias</i>	<i>Financial literacy</i>	<i>Investment decision</i>
N	125	125	125	125	125	125
Mean	3.4500	3.5808	3.6928	3.6860	4.0373	3.7660
Maximum	5.00	5.00	5.00	5.00	5.00	5.00
Minimum	1.00	1.00	1.00	1.00	1.00	1.00
Std. Dev	0.99803	1.01650	0.90422	0.93171	0.85897	0.85403

Source: Data processed using SPSS

### Hypothesis Test

The following is an interpretation of the results of hypothesis testing

**Table 7**  
**Hypothesis test results**

Hypothesis	<i>Estimate</i>	<i>P-value</i>	Decision
H <sub>1</sub> : There is an overconfidence bias effect on investment decision	0.234	0.048	H <sub>1</sub> Supported
H <sub>2</sub> : There is an effect of herding bias on investment decision	0.118	0.365	H <sub>2</sub> Not Supported
H <sub>3</sub> : There is a disposition effect on investment decision	-0.283	0.501	H <sub>3</sub> Not Supported
H <sub>4</sub> : Terdapat pengaruh <i>risk aversion</i> terhadap <i>investment decision</i>	0.762	0.008	H <sub>4</sub> Supported
H <sub>5</sub> : There is an effect of financial literacy on investment decision	-0.054	0.865	H <sub>5</sub> Not Supported
H <sub>6</sub> : <i>Financial literacy moderates the effect between overconfidence bias and investment</i>	0.490	0.270	H <sub>6</sub> Not Supported

**Natasya; Dyah Hayu Kusumastuti; Widya Alifia; Farah Margaretha Leon. The Effect Between Behavioral Biases and Investment Decisions Moderated by Financial Literacy on the Millennial Generation in Jakarta**

<b>decision</b>			
<b>H<sub>7</sub>: Financial literacy moderates the effect between herding bias and investment decision</b>	0.375	0.265	H <sub>7</sub> Not Supported
<b>H<sub>8</sub>: Financial literacy moderates the effect between disposition effect and investment decision</b>	-1.172	0.594	H <sub>8</sub> Not Supported
<b>H<sub>9</sub>: Financial literacy moderates the effect between risk aversion and investment decision</b>	0.890	0.305	H <sub>9</sub> Not Supported

Source: Data processed using AMOS

According to the results of hypothesis testing in table 7, the first hypothesis has a p-value of 0.048 < 0.05, it can be interpreted that there is a positive effect of overconfidence bias on investment decisions. This research is not in line with the research conducted by Adil et al., (2021) where in this research the results showed that overconfidence bias had no effect on investment decisions.

The second hypothesis has a p-value of 0.365 > 0.05, so it can be concluded that there is no effect of herding bias on investment decisions. This can be caused by respondents who are 18-24 years old on average with 0-1 years of investment experience where in that age range respondents tend not to follow other people's opinions but to follow their own confidence when making investment decisions. This research is not in line with the research conducted by Wendy (2021) in that research it was stated that herding bias had an influence on investment decisions. Supported by research conducted by Adil et al., (2021) it was found that both male and female respondents tended to follow the advice given by a broker or their friend in deciding to invest.

The third hypothesis has a p-value of 0.501 > 0.05, so it can be concluded that there is no disposition effect on investment decisions. The average respondent does not agree with the statement that investors will sell their shares if the stock price increases, this could be because respondents have the belief that the rising stock price still has the opportunity to increase even higher. This research is not in line with the research conducted by Wendy (2021) and Adil et al., (2021) in their research which states that there is a disposition effect on the decision making of an investor in investing.

The fourth hypothesis has a p-value of 0.008 < 0.05, so it can be concluded that there is an effect of risk-aversion on investment decisions. The research conducted is in line with the research conducted by Qureshi et al. (2012) in this research it was found that risk-aversion has a positive influence on an investor's investment decisions. Research conducted by Adil et al., (2021) also states that there is an influence on risk-aversion on an investor's decision making in investing.

The fifth hypothesis has a p-value of 0.865 > 0.05, so it can be concluded that there is no influence of financial literacy on investment decisions. On average, respondents aged 18-24 years with 0-1 years of investment experience allow respondents to be new to investing and do not have high awareness of financial literacy before they make investment decisions. This research is not in line with the research conducted by Ni Putu Priscilia Kartika Dewi & Krisnawati (2020) and Adil et al., (2021) which state that financial literacy has a positive and significant effect on investment decision making at productive age.

The sixth hypothesis has a p-value of 0.270 > 0.05, so it can be said that there is no effect of the moderating variable, namely financial literacy, on overconfidence bias in investment decision making. This is not in line with According to Adil et al., (2021) financial literacy moderates the relationship between overconfidence bias and investment decisions, because most of the respondents are new investors who are not too confident about the investments made and also feel that they do not have enough experience in investing. that matter. Investors who are not overconfident view a risk as high. However, this research is in line with the research conducted by Pratama et al., (2021) which stated that overconfidence bias did not have a significant impact on investment decision making.

The seventh hypothesis has a p-value of  $0.265 > 0.05$ , so it can be said that there is no effect of the moderating variable, namely financial literacy, on herding bias in investment decision making. This is because most of the respondents in this research were students with a percentage of 88.8% where they were still in the research period, making it easier for them to obtain the necessary information regarding investment. According to Adil et al., (2021) financial literacy moderates the relationship between herding bias and investment decisions.

The eighth hypothesis has a p-value of  $0.594 > 0.05$ , so it can be said that there is no effect of the moderating variable, namely financial literacy, on the disposition effect on investment decision making. The majority of respondents who answered research questions were students with an age range between 18-24 years with a percentage of 88.8% where at that age they still avoided risk so they tended to sell stocks that gave losses so they did not get bigger losses in the future. According to Adil et al., (2021) financial literacy moderates the relationship between the disposition effect and investment decisions.

The ninth hypothesis has a p-value of  $0.594 > 0.05$ , so it can be said that there is no effect of the moderating variable, namely financial literacy, on risk aversion in investment decision making. This is because most of the respondents are 18-24 years old, new to work and their income is still low, so they are still afraid to make investment decisions because of their lack of experience. This is not in line with research by Adil et al., (2021) that financial literacy moderates the relationship between risk-aversion bias and investment decisions.

## CONCLUSIONS AND RECOMMENDATIONS

According to the results of the research, it can be concluded that overconfidence bias and risk aversion have a positive effect on investment decisions. While herding bias, disposition effect, and financial literacy have no effect on investment decisions. On average, respondents aged 18-24 years with 0-1 years of investment experience have a high level of confidence in making investment decisions. Despite having a high level of confidence, investors also take into account the risks involved. Investors tend to avoid uncertainty and minimize risk when making investment decisions. This research still has limitations, Therefore, the author provides suggestions for further research to examine more respondents with a higher age range and investment experience and not only limited to the DKI Jakarta area. This research is also limited to using the independent variables overconfidence, herding bias, risk aversion bias, disposition effect, financial literacy and the moderating variable, namely financial literacy. In future research, researchers should be able to add other variables such as investment sentiment (Pratama et al., 2020).

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**Natasya; Dyah Hayu Kusumastuti; Widya Alifia; Farah Margaretha Leon. The Effect Between Behavioral Biases and Investment Decisions Moderated by Financial Literacy on the Millennial Generation in Jakarta**

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