THE INFLUENCE OF FINANCIAL BEHAVIOR ON INVESTMENT DECISIONS WITH FINANCIAL LITERACY AS A MEDIATION VARIABLE: CASE STUDY IN PKN STAN LEARNING ASSIGNMENT STUDENTS

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ABSTRACT

Making investment decisions is very important for investors because it will affect profits or losses. Various factors have influenced investment decisions, one of which is financial behavior. Study assignment students are employees who get the opportunity to continue their study. Because they already earn income, it is important to see the students' understanding regarding decision making. This study aims to see the influence of the financial behavior of study assignment students at the STAN State Finance Polytechnic in making decisions with financial literacy as an intervening variable. The financial behavior measured is overconfidence, herding, loss aversion, and risk perception. The result is only the financial literacy variable, risk perception, has a significant effect on investment decisions. Regarding the financial literacy variable, it is evident that only the overconfidence and risk perception variables influence it. Regarding the existence of financial literacy as an intervening variable, it is proven only by overconfidence and risk perception which are able to provide an indirect relationship to investment decisions. Financial literacy has succeeded in fully mediating the relationship of overconfidence to investment decisions and for risk perception only as *partially mediation*.
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1. INTRODUCTION

1.1. Background

Decision making is the art of dealing with complex situations. It is a cognitive process to choose an alternative among several possible alternative scenarios. One cannot make decisions relying solely on oneself. Decision making without planning certainty may not end well. Decision making is basically a unique art of choosing a particular alternative from the available alternatives. Apart from that we can say that it is a process followed by alternatives which are thoroughly checked and evaluated (Jahanzeb et al., 2012).

Humans who want to compete in a challenging business environment must develop themselves in various fields so that they can get the desired results. In terms of investing, investment decisions will be greatly influenced by both behavior, competence, and understanding of financial knowledge. Investors differ from each other in various aspects, including socio-economic, education, gender, race and age. The principle that is always held in financial management is that a high risk will result in a high rate of return as well (Titman et al., 2018).

As an investor, profit is the goal. Therefore, many investors equip themselves with *forecasting*, fundamental analysis, or statistics in making decisions. Research on market behavior has been carried out in recent years (Jahanzeb et al., 2012). The important role related to risk in investing in investors has been conveyed by Slovic (1972) and Kahneman & Tversky (1982) about heuristic rule bias and how to make decisions.

Lintner (1998) explains the definition of Behavioral Finance as the study of how humans interpret and act on information to make investment decisions. Olsen (1998) emphasizes that behavioral finance does not explain rational behavior or indicate wrong decisions, but rather attempts to understand and predict financial markets in a systematic way.

Jahanzeb et al. (2012) states that with the development of information, investors' decisions become inconsistent. Therefore, Jahanzeb calls it a cognitive illusion that can influence investors' decisions. The illusion is categorized into two, namely: heuristic and prospect theory. Decision making that is based on a trial-and-error process is often referred to as a heuristic decision process, such as overconfidence (Dittrich et al., 2005). Prospect theory developed by Kahneman & Tversky (1982) which explains that people value their gains and losses differently. If two identical choices are presented to an investor, one in terms of potential gain and the other in terms of potential loss, the investor will most likely choose the gainer. One form of prospect is loss aversion. Other behavioral theories include herding theory and risk perception. According to Black & White (2016), herding is a behavior in which investors make decisions based on the most decisions because these decisions must be correct. Perceived risk refers to people's judgments and evaluations of the negative impact they may experience from an investment decision (Ricciardi, 2007).

In relation to investment decisions, financial behavior will influence a decision-making process (Kandpal & Mehrotra, 2018). Research on overconfidence behavior is believed to positively influence investment decisions (Sashikala & Chitramani, 2018), (Arieqat et al., 2019), (Metawa et al., 2019), (Keswani et al., 2019), (Pertiwi et al., 2019). However, other studies have a different view, such asTon & Dao (2014), Shah et al. (2018), and Siraj (2019) whose research results in overconfidence has a negative effect on investment decisions. Jahanzeb et al. (2012), Abdin et al. (2017) and Pandey & Jessica (2018) in his research found that overconfidence did not have a significant effect on investment decisions.

Regarding herding relationships and investment decisions, Yosra Mefteh Rekik (2013); Ton & Dao (2014); Lowies et al. (2016); Subramaniam & Velnampy (2017); Sashikala & Chitramani (2018); Arieqat et al. (2019); Keswani et al. 2019); Metawa et al. (2019); argues that herding has a positive effect on investment decisions. Then, Jahanzeb et al. (2012), Black & White (2016), andRajeshwaran (2020) found that herding had no effect on investment decisions.

Loss aversion is proven by previous studies to have an effect on investment decisions (Yosra Mefteh Rekik, 2013), (Subramaniam & Velnampy, 2017), (Sashikala & Chitramani, 2018), (Arieqat et al., 2019), (Keswani et al., 2019) and (Addinpujoartanto & Darmawan, 2020). Then, Jahanzeb et al. (2012) and Pandey & Jessica (2018) in his research resulted in the conclusion thatloss aversion has no effect on investment decisions.

Risk perception behavior also significantly influences investment decisions (Nur Aini & Lutfi, 2019); (Sindhu et al., 2014). The opposite opinion was found by Hesniati & Hendy (2021); Arieqat et al. (2019) which results that risk perception has no effect on investment decisions. Financial literacy is a factor outside of financial behavior that influences investment decisions (Tamimi & Sebastianelli, 2017); (Hesniati & Hendy, 2021; (Upadana & Herawati, 2020); (Siregar & Anggraeni, 2022); (Seraj et al., 2022).

According to Nofsinger (2001), behavioral finance studies how humans actually behave in a financial decision. Someone who has responsible financial behavior tends to be careful and careful in using the wealth they have (Susanti, 2017). To be responsible for the use of wealth, financial literacy needs to be improved. Study Rahmayanti et al. (2019); Dancer (2018); Nababan & Sadalia, (2013) states that

financial attitudes affect financial literacy. Financial attitude will make someone have good financial management, so that it will affect financial literacy.

From previous studies, it appears that there are differences in the results of testing the effect of financial behavior on investment decisions. What distinguishes this research from the previous one is the use of student learning assignment objects. Study assignment students are students who have worked and have their own income. Hussain, Ali (2023) states that risk tolerance is affected, among others, by their capacity to generate wealth, age and their willingness to bear losses. This is also confirmed by the research results of Dewati and Marfuah (2021) which state that regular students tend to be less willing to take risks because most students do not have income as a source of funds when investing in the capital market. The next difference is related to research variables and indicators which in this study are developments from previous studies.

Seeing the research gaps and differences with previous research, the authors are interested in examining the financial behavior of Study Assignment Students at PKN STAN towards investment decisions with financial literacy as mediation. At the Ministry of Finance, financial literacy has become a flagship program both on campus and at the office, therefore it is interesting to see whether literacy is able to mediate financial behavior towards investment decisions. This research is structured by introduction, literature review, methodology, discussion and closing.

1.2. Research purposes

Based on the background, the research questions for this study are formulated as follows:

1. Does overconfidence affect investment decisions?
2. Does herding affect investment decisions?
3. Does loss aversion affect investment decisions?
4. Does risk perception affect investment decisions?
5. Does financial literacy affect investment decisions?
6. Does overconfidence have an indirect effect on investment decisions through financial literacy?
7. Does herding indirectly influence investment decisions through financial literacy?
8. Does loss aversion have an indirect effect on investment decisions through financial literacy?
9. Does risk perception have an indirect effect on investment decisions through financial literacy?

Based on the formulation of the problem, the purpose of this research is to:

1. To find out and analyze the effect of overconfidence on investment decisions.
2. To find out and analyze the effect of herding on investment decisions.
3. To find out and analyze the effect of loss aversion on investment decisions.
4. To find out and analyze the effect of risk perception on investment decisions.
5. To find out and analyze the effect of financial literacy on investment decisions.
6. To find out and analyze the indirect effect of overconfidence on investment decisions through financial literacy.
7. To find out and analyze the indirect effect of herding on investment decisions through financial literacy.
8. To find out and analyze the effect of loss aversion indirectly on investment decisions through financial literacy.
9. To find out and analyze the effect of risk perception indirectly on investment decisions through financial literacy.

2. LITERATURE REVIEW

Investors realize that emotions and biases drive changes in stock prices through investment decisions that are influenced by behavior (Sewell, 2005). The idea that psychology drives the movement of the stock market contradicts the well-known theory of efficient markets. Supporters of the efficient market hypothesis say that any new, relevant information will quickly be reflected in stock prices. Behavioral financial psychology has explored the various levels of rationality and irrationality in which individuals and groups can act (Ritter, 2003). Therefore, it can be concluded that behavior is a factor that is believed to influence stock prices through investment decisions taken.

Classical financial theory assumes that investors are rational when making investment decisions. Investment rationality refers to using rational and unbiased reasons to buy or sell assets and build a portfolio (Chadra & Kumar, 2008). This reason is in accordance with one of the financial principles, namely the trade-off between risk and return. In general, financial decisions assume that the goal of all investors is to maximize wealth (Titman et al., 2018). Classical decision theory assumes that investors make well-informed, systematic decisions that are in their own interest, and act in a world of certainty and risk measured by the variance of the probability distribution of probabilities of gains and losses (March & Shapira, 1987). Markowitz (1952) describes how a rational investor should build a portfolio to maximize expected returns and minimize risk. Thus, risk and return are major factors in investment decisions.

Tools such as non-algorithms and estimation techniques used to solve problems lead to heuristic problem-solving approaches. Investors determine their own findings through a process of trial and error, which guides them to choose certain opportunities. It will be

difficult for investors to make irrational investor decisions to separate the emotional and mental factors involved in the decision-making process that investors go through by collecting evaluations of relevant information (Jahanzeb et al., 2012).

Kahneman & Tversky (1982) developing a prospect theory that explains that people value their gains and losses differently. If two identical choices are presented to an investor, one in terms of potential gain and the other in terms of potential loss, the investor will most likely choose the former. This theory is also called the 'loss aversion theory'. This theory is based on human nature which does not like losses. An example of this behavior is risk averse where investors tend to avoid losses.

Overconfidence is a behavior in which investors have excessive confidence in their investment decisions. Investors who have this behavior will make investment decisions based on the risk analysis carried out. The positive and significant relationship between overconfidence and investment decisions is because investors are confident in their abilities and knowledge when making investment decisions (Sashikala & Chitramani, 2018), (Arieqat et al., 2019), (Metawa et al., 2019), (Keswani et al., 2019), (Pertiwi et al., 2019).

Based on the explanation above, the hypotheses that can be built are:
H1: Overconfidence has a significant effect on investment decision making

Loss aversion is a behavior in which investors make decisions based on comparison and reasoning. Previous studies from Yosra Mefteh Rekik (2013), Subramaniam & Velnampy (2017), Sashikala & Chitramani (2018), Arieqat et al. (2019), Keswani et al. (2019) and (Addinpujoartanto & Darmawan, 2020) mentions that loss aversion allows investors to withstand losses rather than gains. Therefore, the proposed research hypothesis is:
H2: Loss aversion has a significant effect on investment decision making

Herding behavior is a behavior in which investors make decisions based on majority decisions because these decisions are always correct (Black & Yi, 2016). Areiqat et al. (2019) argue that individual investors are limited in finding information and are better off following majority decisions because they have more information, and their decisions are more accurate. Previous studies also agree that investors tend to decide the majority because they can maximize profits and reduce risk (Yosra Mefteh Rekik, 2013); (Ton & Dao, 2014); (Lowies et al., 2016); (Subramaniam & Velnampy, 2017); (Sashikala & Chitramani, 2018); (Arieqat et al., 2019); (Keswani et al., 2019); (Metawa et al., 2019). Therefore, the hypothesis proposed is:
H3: Herding behavior has a significant effect on investment decision making.

Researchers define risk perception as beliefs held by individuals, groups, or communities about the possibility of a risk occurring or about the level, magnitude, and timing of the occurrence of these negative effects. Perceived risk is a source of communication that can prepare investors to accept risk according to their understanding. So naturally, risk perception influences investment decision making. This has been proven by the research of Nur Aini & Lutfi (2019) and Sindhu et al. (2014), so the fourth hypothesis used is
H4: Risk perception has a significant effect on investment decision making.

Behavioral finance studies how humans behave in a decision making (Nofsinger, 2001). To make the right and profitable decisions, financial literacy must be increased. Research Rahmayanti et al. (2019); Andansari (2018); Nababan & Sadalia (2013) states that financial attitudes affect financial literacy. Then, with sufficient literacy, investors can make decisions that they feel are right. Therefore, financial literacy is believed to influence decision making (Tamimi & Sebastianelli, 2017); (Hesniati & Hendy, 2021; (Upadana & Herawati, 2020); (Siregar & Anggraeni, 2022); and (Seraj et al., 2022). For the relationship above, the authors propose the following hypothesis:
H5: Financial literacy influences investment decision making.
H6: Overconfidence has an indirect effect on investment decisions through financial literacy.
H7: Herding has an indirect effect on investment decisions through financial literacy.
H8: Loss aversion has an indirect effect on investment decisions through financial literacy.
H9: Risk perception has an indirect effect on investment decisions through financial literacy.

3. METHODOLOGY & RESEARCH DATA

This research is quantitative research using primary data. Primary data was obtained by distributing questionnaires to all students on study assignments. Questionnaires were distributed via google form which was distributed through the class's supporting lecturers.

The questionnaire was filled with a Likert scale totaling 30 statements. Statements are grouped into 6 variables, namely over confidence, herding, risk perception, loss aversion, financial literacy, and investment decisions. The questionnaire uses a Likert scale with answer choices 1: strongly disagree to 5: strongly agree.

1. Variable Operationalization
The variables used in this study consisted of 6 variables, with 4 independent variables, 1 dependent variable, and 1 intervening variable.
Independent/Exogenous Variables:
a. *Overconfidence*
Dittrich et al. (2005) observed in their experiment that about two-thirds of the participants tended to be

overconfident. They further observed that the investors who lost their money in the investment, gained more trust. Confidence may have several dimensions, gives more courage, plays an important role in achieving success. Confidence alone is not the only factor of success but still it is usually celebrated and encouraged. However, self-confidence has always been considered a positive trait. In certain cases, investors while exaggerating their skills and knowledge indulge in exaggerated trading.

To measure *overconvidence*, this study follows (Mumaraki & Nasieku, 2016) by using 5 indicators. The indicators are changed into the following statements:

1) I thought, I'm a seasoned investor.
2) I feel more confident in my own investment opinion than that of my colleagues or friends.
3) I do not consult anyone (family, friends or colleagues) before making an investment decision.
4) I believe that my skills and knowledge of the securities market can help me to outperform the market.
5) I am a successful person in an environment where many people are less successful.

b. Loss Aversion

When an investor faces losses, he or she may become risk seeker, but be risk averse while enjoying gains. Such a phenomenon can be called loss aversion (Jahanzeb et al., 2012). Loss aversion allows investors to withstand losses rather than gains (Addinpujoartanto & Darmawan, 2020).

To measure the loss aversion variable, this research develops indicators from Arieqat (2019). Indicators in the form of statements made are:

1) I am more worried about losing a large investment on my investment than losing a substantial profit (gain).
2) I get nervous when there is a large price drop in an investment, I invest in.
3) I will not increase my investment when market performance is bad.
4) When it comes to investing, no loss of capital (invested money) is more important than return (profit).
5) I avoid selling my investments that are decreasing in value and ready to sell my investments that are increasing in value

c. Herding

Herding is irrational investor behavior because investor decisions are related to the reactions of other investors when they are in the same situation, not considering investments based on fundamentals (Ratnadi et al., 2020). These investors depend on information obtained collectively compared to personal information so that asset prices will deviate from the fundamental value.

To measure this variable, 4 indicators are used by developing research Kourtidis et al. (2011) and Adiputra et al. (2021), namely:

1) The decisions of other investors in choosing the type of investment have an impact on my investment decisions.
2) The decisions of other investors to buy and sell investments impact my investment decisions.
3) I usually react quickly to changes in other investors' decisions and follow their reactions to the market.
4) The decisions of other investors regarding the volume/amount of investments traded do not influence my investment decisions.

d. Risk Perception

The concept of "risk perception" refers to how investors view the risk of financial assets, based on their concerns and experiences. According to Forlani & Mullins (2000), the perception of risk concerns the way individuals understand the level of uncertainty and possible losses associated with certain actions. Investors' perception of risk is an important factor influencing their investment decisions (Sindhu et al., 2014).

To measure the Risk Perception variable, the questionnaire used develops indicators from Arieqat et al. (2019). The indicators in the statements that have been prepared are as follows:

1) I am usually not afraid to invest in the types of securities that are sure to pay off.
2) I am careful with securities that show sudden changes in price or trading activity.
3) I am usually wary of investing in securities that have had a negative past performance in trading
4) I don't find the idea of participating in the buying/selling of the securities market unappealing.
5) My investments in securities are based largely on investment knowledge, experience and education.
6) I have hope when investing in securities that have shown losses.

Variable Intervening:
Financial Literacy

According to Huston (2010), financial literacy has two main dimensions, namely understanding or knowledge of personal finance and the second is using it. Servon & Kaestner (2008) defines financial literacy as "a person's ability to understand and utilize financial concepts".

To measure financial literacy variables, this study develops indicators from Siregar & Anggraeni (2022). The indicators in the statement used are:

1) I understand the basic knowledge of finance
2) I am able to manage finances
3) I understand debt and credit
4) I understand about investment instruments
5) I understand the investment risks

Dependent/Endogenous Variables:
Investation decision

The investment decision is the act of placing capital that is expected to generate profits (*return*) (Hidayat, 2019). The relationship between return and risk is

unidirectional where the higher expected *return*, the greater the risk that must be borne by investors.

To measure investment decision variables, the development of research indicators is used Arieqat et al. (2019). The following are indicators used in the form of statements.
1) In most cases, my investment decisions align with my investment goals.
2) My reaction is normal to loss.
3) I usually get the return I expect from my investment decisions.
4) I take a bigger risk than my investment decisions.
5) The period of holding my investment for a long time

In conducting data analysis, the authors use SEM which is processed using smart PLS. Before being analyzed using SEM, descriptive analysis was carried out. Descriptive analysis is used to make explanations, systematic, factual and accurate descriptions of the nature, facts and relationships between phenomena asked in the questionnaire.

After that, data analysis was carried out using SmartPLS to see the relationship and influence between variables. There are three tests conducted, namely:
a. Testing the outer model to see the validity and reliability of indicators and constructs.
b. Testing *goodness of fit*
c. Testing the inner model to see the significance of the effect of exogenous variables on endogenous variables.

4. RESULTS AND DISCUSSION

Research Respondents

This study took respondents from study assignment employees who were studying at the STAN State Finance Polytechnic. Data was obtained through a questionnaire submitted in the period March to April 2023. From the questionnaire submitted using the g-form, there were 141 respondents who filled it out. Table 41 describes the gender of the respondents who filled out the questionnaire.

Based on table 1 it can be seen that most of the respondents who filled in were male, namely as many as 83 students or 58.9%. Respondents who were female were 58 female students or around 41%.

Table 1. Gender of Respondents

Gender	Total	%
Male	83	58,9%
Female	58	41,1%
	141	100%

Furthermore, table 2 explains that of the respondents who filled out the questionnaire, the majority came from semester 3 totaling 87 students or 61%. Students from semesters 4, 6 and 10 did not fill in because when the questionnaire was distributed, they were still in an odd semester. Semester 8 there are

students who fill in because there is a special class that comes from the Ministry of Public Works and Public Housing. From this information it can be seen that the majority of respondents are Diploma III Transfer Programs.

Table 2. Respondents Grade

Grade	Total	%
Semester 3	87	61,7%
Semester 4	0	0,0%
Semester 5	16	11,3%
Semester 6	0	0,0%
Semester 7	11	7,8%
Semester 8	13	9,2%
Semester 9	14	9,9%
Semester 10	0	0,0%
	141	100,0%

Based on the general number of respondents, it can be seen in Table 3 that most of them are aged between 21-23 years, totaling 75 respondents (53%). Respondents aged 24-26 years totaled 63 students (44%) and the rest were in the range of 27-29 years (2.1%).

Table 3. Age of Respondents

Age	Total	%
17-20 tahun	-	0,0%
21-23 tahun	75	53,2%
24-26 tahun	63	44,7%
27-29 tahun	3	2,1%
> 29 tahun	-	0,0%
	141	100,0%

Respondents who filled out the questionnaire on average had 3-5 years of service. This can be seen from Table 4 which shows 112 or 79% of respondents with a working period of 3-5 years. Then those who have worked for 0-2 years are 26 students (18%) and those who have worked for 6-8 years are 3 students (2.1%).

Table 4. Respondents' Working Period

Experience	Total	%
0-2 tahun	26	18,4%
3-5 tahun	112	79,4%
6-8 tahun	3	2,1%
> 8 tahun	-	-
	141	100,0%

Regarding the investment experience of the respondents, it turns out that most of the respondents

had 1-2 years of experience (46%). This can be seen from Table 5 which shows 66 students have 1-2 years of investment experience, followed by 35 students with less than 1 year of experience (24%) and 32 students with 3-4 years of experience (22.7%). From investment experience, it can be seen that almost all of the

Table 5. Respondents' Investment Experience

Investment Duration	Total	%
< 1Tahun	35	24,8%
1-2 Tahun	66	46,8%
3-4 Tahun	32	22,7%
4-5 Tahun	5	3,5%
> 5 tahun	3	2,1%
	141	100,0%

Then, in table 6 describes the type of investment made by respondents. From the table, it can be seen that the majority of respondents are into derivative types, such as mutual funds (27%). Then, followed by the choice of stocks and derivatives which were the

Table 6. Respondents' Investment Experience

Type of Investment	Total	%
Stock	29	20,6%
Debt Instrument, like bond, sukuk, etc	8	5,7%
Derivative, like mutual fund etc.	39	27,7%
Stock and Debt instrument	12	8,5%
Debt Instrument and derivative	1	0,7%
Stock and derivative	32	22,7%
Stock, debt instrument, and derivative	20	14,2%
	141	100,0%

respondents studied investing after working. This is in accordance with research by Dewati and Marfuah (2021) which states that regular students tend to be less daring to take risks becausemost of the students do not have income as a source of funds in investing in the capital market.

choice of 32 respondents (22%) and in third place, the choice of investment chosen by the respondents was stocks (20%). From the available data, around 46% more respondents have invested in more than one asset which indicates they have learned to collect investment portfolios.

Descriptive statistics

Descriptive statistical analysis provides an overview or description of a data seen from the average value (mean), standard deviation of each research variable. The results of the descriptive analysis of the research variables can be seen in table 7 to table 12

1. Loss Averse Variable Construct

Table 7. Loss Averse Variable Statistics

	Mean	Median	Min	Max	Standard Deviation
LA1	3.979	4.000	1.000	5.000	1.082
LA2	3.851	4.000	1.000	5.000	1.058
LA3	3.078	3.000	1.000	5.000	1.155
LA4	3.284	3.000	1.000	5.000	1.323
LA5	3.844	4.000	1.000	5.000	1.100

The highest mean value is found in the first question which indicates that students tend to avoid losses by selling investments only when the price rises. From the answers to all the questions for the loss averse

construct, it can be seen that the average student tends to behave loss averse. The lowest mean scores were found on questions related to whether students felt nervous when there was a large drop in the price of an

investment. The average student answers with a value of 3 quite agree. This indicates that students actually understand enough related to investment risk.

2. Over Confidence Variable Construct

Table 8. Over Confidence Variable Statistics

	Mean	Median	Min	Max	Standard Deviation
OC1	2.291	2.000	1.000	5.000	0,599305556
OC2	3.043	3.000	1.000	5.000	1.031
OC3	2.780	3.000	1.000	5.000	1.186
OC4	3.057	3.000	1.000	5.000	1.064
OC5	2.752	3.000	1.000	5.000	0,677777778

Answers to questions related to the over confidence construct such as confirming answers to loss aversion behavior. From the mean questions, there is a tendency for respondents' answers to be in numbers 2 and 3. This indicates that students are unsure of their overconfidence. The first question shows that students are not sure that they are experienced investors. This answers from the experience in Table 4.5 that most of them still have 1-2 years of experience. However, from the second question, students are quite confident about the opinions of other parties related to investment decisions.

3. Herding Variable Construct

Table 9. Herding Variable Statistics

	Mean	Median	Min	Max	Standard Deviation
HE1	3.064	3.000	1.000	5.000	1.053
HE2	2.950	3.000	1.000	5.000	1.067
HE3	2.539	3.000	1.000	5.000	1.007
HE4	3.355	3.000	1.000	5.000	1.032

Based on the answers from students, it can be seen that students are not too affected by the actions of other parties. This confirms from the question on overconfidence that they are quite sure of their own opinion in making decisions. On average, respondents' answers were quite agree regarding herding behavior in making investment decisions.

4. Risk Perception Variable Construct

Table 10. Risk Perception Variable Statistics

	Mean	Median	Min	Max	Standard Deviation
RP1	4.057	4.000	1.000	5.000	0,675694444
RP2	4.099	4.000	1.000	5.000	0,556944444
RP3	3.972	4.000	1.000	5.000	0,566666667
RP4	3.780	4.000	1.000	5.000	0,567361111
RP5	3.766	4.000	1.000	5.000	0,594444444
RP6	2.702	3.000	1.000	5.000	0,690972222

From the respondents' answers, it can be seen that student respondents tend to pay attention and consider the existence of risks and returns. Students tend to answer strongly agree regarding Risk Perception behavior. Students tend to be careful in making investment decisions, but are not too afraid of losses because they understand the risks of investing.

5. Financial Literacy Variable Construct

Table 11. Financial Literacy Variable Statistics

	Mean	Median	Min	Max	Standard Deviation
LK1	3.908	4.000	1.000	5.000	0,541666667
LK2	3.957	4.000	2.000	5.000	0,488194444
LK3	4.092	4.000	2.000	5.000	0,48125

LK4	3.872	4.000	2.000	5.000	0,541666667
LK5	4.135	4.000	2.000	5.000	0,490972222

From the answers of the respondents, it can be seen that students tend to have good financial literacy in making decisions. The highest mean is found in understanding related to investment risk. This confirms the previous question related to risk perception and loss averse that students have an understanding related to investment. The smallest answer is related to the investment instrument.

6.   Investment Decision Variable Construct

Table 12. Investment Decision Variable Statistics

	Mean	Median	Min	Max	Standard Deviation
KI1	3.894	4.000	1.000	5.000	0,527777778
KI2	3.773	4.000	2.000	5.000	0,563194444
KI3	3.504	4.000	1.000	5.000	0,552777778
KI4	3.106	3.000	1.000	5.000	0,685416667
KI5	4.007	4.000	1.000	5.000	0,674305556

Respondents' answers related to investment decision variables show that respondents agree that the investment decisions taken are in line with their goals. Apart from that, they agree that their response to loss is normal. Investment decisions taken by respondents tend to agree in holding investments in the long term. This indicates that respondents tend to invest not for trading purposes.

Confirmatory Factor Analysis

Based on Hair et al (2010) the minimum value for each factor loading can be seen in Table 13 with a value of ≥ 0.5 or normally ≥ 0.7. So that this researcher can use 141 samples to use a loading factor of 0.50, while from the previous testers. With the results of this study the number of samples with as many as 141 loading factors used mostly ≥ 0.5.

Tabel 13. Factor Loading

Factor Loading	Jumlah Sampel
0,4	200
0,45	150
0,5	120
0,55	100
0,6	85
0,65	70
0,7	60

Source: Haier et al, 1998

In Figure 1, it can be seen that by removing some of the previous indicators which had an outer loading below 0.5, it can be seen that the latest model no longer has indicators that have an outer loading value below 0.5. Therefore, the model can be continued for reliability testing.

Figure 1. Outer Loading Model Modification
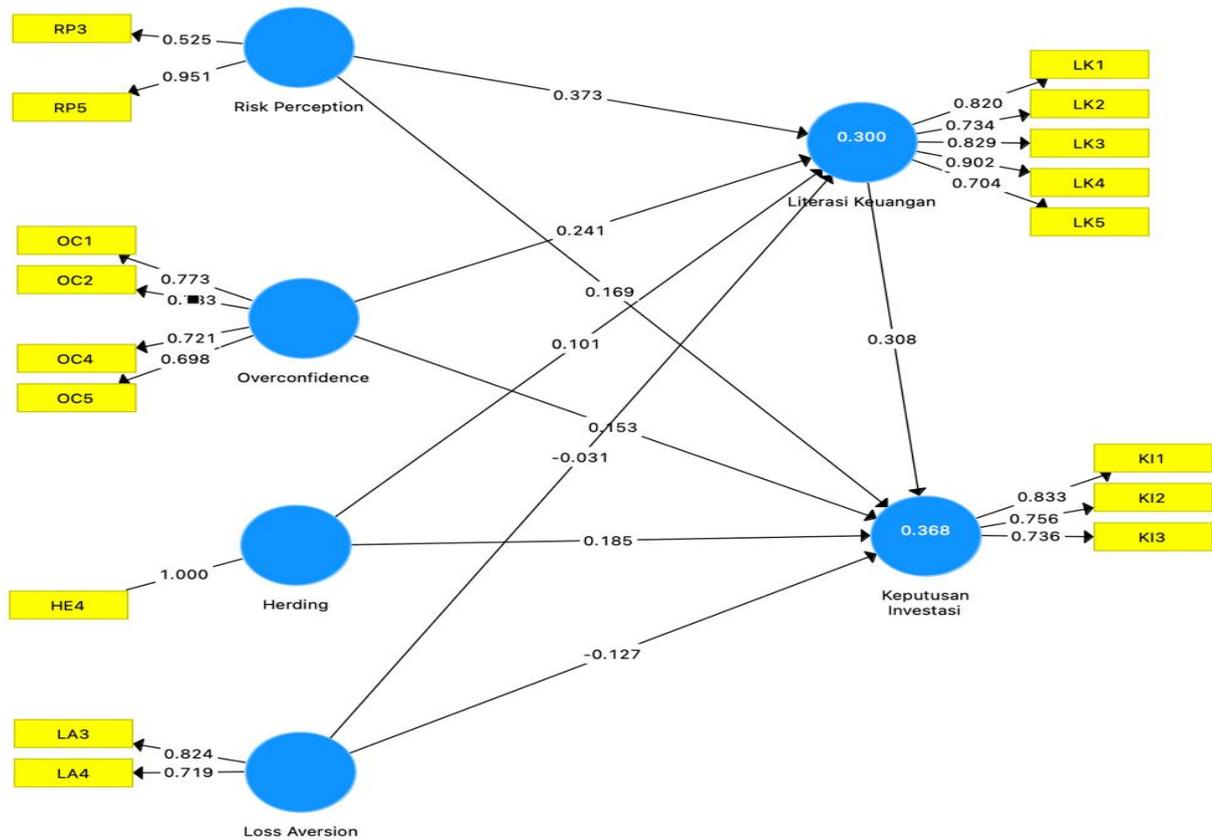
Verification of convergent validity can be achieved in two ways, the first is by achieving the criteria and the second is through a model comparison test. In the SEM approach, a measurement meets convergent validity if it fulfills several conditions (Hair et al., 2010). The reliability value of the indicator/CR is at least 0.5, the composite reliability is higher than 0.7 and the average extracted variance (AVE) is at least 0.5.

In table 14, it can be seen that the CR value is above 0.7 and the AVE value is above 0.5. This indicates that the data is valid and reliable. This indicates that all the constructs in the estimated model meet the criteria of discriminant validity or reliability or consistency of the indicators (Fornel & Lacker, 1981). The next test is a hypothesis test.

Table 14. Reliability Test

	Composite Reliability	Average Variance Extracted (AVE)
Herding	1.000	1.000
Investation decision	0,819	0,602
Financial Literacy	0,889	0,641
Loss Aversion	0,748	0,589
Overconfidence	0,832	0,554
Risk Perception	0,726	0,589

Hypothesis testing

After testing the validity and reliability, the next step is to test the effect. In this study, the independent variable is financial behavior which is translated into herding behavior (X1), loss aversion (X2), overconfidence (X3), and risk perception (X4). The next independent variable is financial literacy (X4) which will also be an intervening variable.

Figure 2. R-Square

Based on the regression test conducted using the SmartPLS application in Figure 2, it can be seen that the Adjusted R Square for investment decisions is 34.4% and the R Square for financial literacy is 27.9%.

The r-square result is 34.4% indicating that the variables currently used are only able to explain their effect on investment decisions by 34.4%, the other 65.6% is explained by other variables.

For financial literacy, it appears that only 27.9% of changes in financial literacy are influenced by investment behavior such as herding (X1), loss aversion (X2), overconfidence (X3), and risk perception (X4). Therefore, further research is needed to look at other factors.

Figure 3. Model Fit Test

Model_Fit

	Fit Summary	rms Theta	
		Saturated Model	Estimated Model
SRMR		0.089	0.089
d_ULS		1.221	1.221
d_G		0.372	0.372
Chi-Square		309.720	309.720
NFI		0.628	0.628

SRMR (Standardized Root Mean Square Residual) describes how suitable the model used in the study is. In Figure 3, it can be seen that the SRMR value is below 0.1 or close to 0.08, which means that the model is suitable for use. This is based on Hu & Bentler (1999) which states that if the SRMR value is <0.1, then the model is considered suitable. Then, when viewed from the NFI (Normal Fit Index) value in Figure 3, it can be seen that the NFI value is at 0.628, close to 1. If the NFI value is close to 1 above 0.5, the model is considered to be getting better.

Table 15. Significance Test

	T Statistics (|O/STDEV|)	P Values
Herding -> Keputusan Investasi	1,942	0,053
Herding -> Literasi Keuangan	1,288	0,198
Literasi Keuangan -> Keputusan Investasi	3,421	0,001
Loss Aversion -> Keputusan Investasi	1,523	0,128
Loss Aversion -> Literasi Keuangan	0,418	0,676
Overconfidence -> Keputusan Investasi	1,890	0,059
Overconfidence -> Literasi Keuangan	2,937	0,003
Risk Perception -> Keputusan Investasi	2,376	0,018
Risk Perception -> Literasi Keuangan	4,637	0,000

After confirmatory factor analysis, the next test is a significance test. Based on table 15, it can be seen that:

- Financial literacy variables have a significant effect on investment decisions

- Overconfidence variable has a significant effect on financial literacy
- The risk perception variable has a significant effect on investment decisions
- Risk perception has a significant effect on financial literacy

Table 16. Indirect Test

	T Statistics (|O/STDEV|)	P Values
Herding -> Literasi Keuangan -> Keputusan Investasi	1,204	0,229
Loss Aversion -> Literasi Keuangan -> Keputusan Investasi	0,405	0,686
Overconfidence -> Literasi Keuangan -> Keputusan Investasi	2,357	0,019
Risk Perception -> Literasi Keuangan -> Keputusan Investasi	2,546	0,011

Then, based on table 16 regarding the indirect effect test, it can be seen that:

- Financial literacy has an indirect effect on the Overconfidence relationship on investment decisions
- Financial literacy has an indirect effect on the relationship between risk perception and investment decisions

From the two findings above, it appears that only the overconfidence variable has a full mediating relationship to investment decisions through financial literacy, while for risk perception, the influence on investment decisions is partially mediating.

Discussion

1. The effect of overconfidence on investment decisions.

The results of the study show that overconfidence has no effect on decision making in

student learning assignments. The results of this study have similarities with research (Jahanzeb et al., 2012), (Abdin et al., 2017), (Pandey & Jessica, 2018), (Lathifatunnisa & Nur Wahyuni, 2021), (Novianto & Robin, 2021).

This result is actually in line with the answers to questions related to the over confidence construct. From the mean questions, there is a tendency for respondents' answers to be in numbers 2 and 3. This indicates that students are unsure of their overconfidence. When investors are unsure of their abilities and confidence in their decisions, investors tend to generate negative returns. This may be the basis for respondents not taking investment decisions. In addition, this distrust also resulted in insignificant research results.

The results of this study also confirm the investment experience of the respondents. The

investment experience of most of the respondents ranged from 0-2 years, indicating that the experience of the respondents was not sufficient to provide confidence in making investment decisions. (Baker & Nofsinger, 2002) states that with great experience will increase knowledge so that an investor has a high level of overconfidence.

2. The effect of herding on investment decisions.

The results showed that herding had no effect on decision making in student learning assignments. Herding behavior is an act that does not base investment decisions based on available information but tends to be influenced by the actions of other investors. The results of this study are the same as the research (Jahanzeb et al., 2012), (Black & Yi, 2016), (Rajeshwaran, 2020), (Hesniati & Hendy, 2021), (Novianto & Robin, 2021), (Alquraan et al., 2016).

Results that are not significant indicate that respondents tend to use existing information to make decisions or because there is a very careful behavior. Novice investors tend to be careful in making decisions because they avoid losses (Malik, 2021). Respondents in this study are classified as beginners because they have little experience (0-2 years).

Based on the results of the respondents' answers, respondents tend to use information that is their own belief in making decisions. This shows that respondents are rational investors who consider decisions based on risk and return.

3. Effect of loss aversion on investment decisions.

The results of the study show that loss aversion has no effect on decision making in student learning assignments. The research results support research from (Jahanzeb et al., 2012), (Pandey & Jessica, 2018), (Nur Aini & Lutfi, 2019), (Novianto & Robin, 2021). This result can be because students already have sufficient understanding regarding investment which causes students not to be afraid of losses. This shows that respondents are able to take into account risks and returns in making decisions, although the descriptive results show that respondents tend to have loss averse behavior in making decisions. In addition, loss aversion tends to be owned by novice investors or investors who have income or capital that is not large so that losses will make them feel more miserable (Hariyanto, 2021).

4. The effect of risk perception on investment decisions.

The results of the study show that risk perception has a significant effect on decision making in student learning assignments. The results of this study support research from (Nur Aini & Lutfi, 2019), (Sindhu et al., 2014), and (Yolanda & Tasman, 2020).

Based on the respondent's perception of risk including good which causes the respondent to use his analytical skills in calculating the risk that will be accepted in decision making. Edward (2010) states that when investors view certain risks carefully, they can make decisions that maximize investor utility. In this case the answer is the result of the risk perception construct questionnaire which has a better average than other investment behavior constructs.

5. The effect of financial literacy on investment decisions.

The results of the study show that financial literacy has a significant effect on decision making in student learning assignments. The results of this study support the research (Tamimi & Sebastianelli, 2017), (Hesniati & Hendy, 2021), (Upadana & Herawati, 2020), (Siregar & Anggraeni, 2022), (Seraj et al., 2022). These results also confirm the respondents' entries in the questionnaire which stated that the majority of respondents agreed that financial literacy influences investment decisions. Most of the respondents have good literacy to make decisions.

Financial literacy is a very important factor in making investment decisions, because financial literacy can help an investor in predicting the investment to be made and how to determine investment steps in order to generate profits in the future. A person's low financial literacy can lead to making wrong decisions.

6. The indirect effect of overconfidence on investment decisions through financial literacy.

The results of the study show that overconfidence has a significant effect on decision making in students learning assignments through financial literacy. These results indicate that financial literacy can be an important factor for students in learning assignments to continue learning about investment and finance in order to increase their ability and confidence in making decisions. As mentioned by Baker & Nofsinger (2002) which states that self-confidence can be increased through knowledge and experience.

7. The effect of herding indirectly on investment decisions through financial literacy.

The results of the study show that herding has no significant effect on decision making in students studying assignments through financial literacy. This result is actually in accordance with the concept of herding whereby herding is only done by irrational investors (Malik,

Abdul, 2021). An irrational investor is an investor who makes investment decisions not based on available information, so they do not pay attention to the risks involved.

8. The effect of loss aversion indirectly on investment decisions through financial literacy.

The results of the study show that loss aversion has no significant effect on decision making in students' learning assignments through financial literacy. Loss aversion tends to avoid losses, they tend to suffer losses more, so understanding related to literacy is important. However, the research results show different things because based on the results of filling out the questionnaire, most students already understand the concept of risk return on investment so they feel normal about losses. This is shown from the results of the questionnaire on loss averse where most of the answers are loss averse, still thinking about losses but considering losses as a normal thing in investing. This shows that student learning assignments tend towards risk perception and are answered in the risk perception construct questionnaire.

9. The effect of risk perception indirectly on investment decisions through financial literacy.

The results of the study show that risk perception has a significant effect on decision making in students learning assignments through financial literacy. The results of this study are in line with the understanding of risk perception where in making decisions it is necessary to understand and consider all risks and use information in analyzing risks. Therefore, with good financial literacy will be able to improve the ability of investors to analyze the risk of their investment.

5. CONCLUSIONS AND SUGGESTIONS

Based on the test results, it can be concluded that only the financial literacy variable, risk perception, has a significant effect on investment decisions. Meanwhile, the variables overconfidence, herding, and loss aversion have no effect on investment decisions.

Regarding the financial literacy variable, it is evident that only the overconfidence and risk perception variables influence it. This proves that investors who are careful and confident enough need financial literacy to be used later to make decisions.

Regarding the existence of financial literacy as an intervening variable, it is proven only by overconfidence and risk perception which are able to provide an indirect relationship to investment decisions. Financial literacy has succeeded in fully mediating the relationship of overconfidence to

investment decisions (fully mediated) and for risk perception only as *partially mediation.*

Based on the results of the research above, it appears that financial knowledge is very important to learn to make decisions, especially for confident and cautious investors.

6. LIMITATIONS AND IMPLICATIONS

This research still has limitations that can be developed in further research. Research can be developed by adding several variables to complement the factors that influence investment behavior in students.

This research is expected to provide an understanding of the importance of financial literacy to encourage people to understand investment instruments and want to invest in financial instruments.

REFERENCES

Abdin, S. Z. ul, Farooq, O., Sultana, N., & Farooq, M. (2017). The impact of heuristics on investment decision and performance: Exploring multiple mediation mechanisms. *Research in International Business and Finance*, *42*, 674–688. https://doi.org/10.1016/j.ribaf.2017.07.010

Addinpujoartanto, N.A., & Darmawan, S. (2020). The Influence of Overconfidence, Regret Aversion, Loss Aversion, and Herding Bias on Investment Decisions in Indonesia.*Journal of Economics and Business Research*, *13*(3), 175. https://doi.org/10.26623/jreb.v13i3.2863

Adiputra, I. G., Rahardjo, T. H., & Hadrian. (2021).*Analysis of Investment Decision Making Through Overconfidence, Herding Effect, and Self-Monitoring Variable During the Covid-19 Pandemic in Indonesia*. https://doi.org/10.2991/aebmr.k.210507.028

Alquraan, T., Alqisie, A., & al Shorafa, A. (2016). Do Behavioral Finance Factors Influence Stock Investment Decisions of Individual Investors? (Evidences from Saudi Stock Market). *American International Journal of Contemporary Research*, *6*(3), 159–160.

Andansari, P. I. (2018). The Influence of Financial Attitude and Social Environment on Student Financial Literacy.*Ecpdunamika Journal*, *1*(1).

Arieqat, A. Y., Rumman, A. A., Al-Alani, Y. S., & Alhorani, A. (2019). Impact Of Behavioral Finance On Stock Investment Decisions Applied Study On A Sample Of Investors At Amman Stock Exchange. *Academy of*

Accounting and Financial Studies Journal, *23*(2).

Bakar, S., & Yi, A. N. C. (2016). The Impact of Psychological Factors on Investors' Decision Making in Malaysian Stock Market: A Case of Klang Valley and Pahang. *Procedia Economics and Finance*, *35*, 319–328. https://doi.org/10.1016/S2212-5671(16)00040-X

Baker, H. K., & Nofsinger, J. R. (2002). Psychological Biases of Investors. *Financial Services Review*, *11*, 97.

Chadra, A., & Kumar, R. (2008). Decision Making in the Stock Market: Incorporating Psychology with Finance. *In the Proceedings of the Conference on Forecasting Financial Markets*.

Dittrich, D. A. v., Güth, W., & Maciejovsky, B. (2005). Overconfidence in investment decisions: An experimental approach. *The European Journal of Finance*, *11*(6), 471–491. https://doi.org/10.1080/1351847042000255643

Edward, T. (2010). *Portfolio and Investment* (1st ed.). Canisius.

Forlani, D., & Mullins, J. W. (2000). Perceived risks and choices in entrepreneurs' new venture decisions. *Journal of Business Venturing*, *15*(4), 305–322. https://doi.org/10.1016/S0883-9026(98)00017-2

Hariyanto. (2021, August 24). *Loss Aversion in Investments? Here's How to Avoid It!* Ajaib.Co.Id. https://ajaib.co.id/loss-aversion-dalam-investasi-begini-cara-menghindarinya/#Cara_Menghindari_Loss_Aversion

Hesniati, & Hendy. (2021). Effect of Financial Behavior on Investment Decisions. *CoMBInES: Conference on Management, Business, Innovation, Education and Social Science*, *1*(1), 2221–2230.

Hidayat, W.W. (2019). *Basic Concepts of Investment and Capital Markets* (First). Uwais Indonesian Inspiration.

Huston, S. J. (2010). Measuring Financial Literacy. *Journal of Consumer Affairs*, *44*(2), 296–316. https://doi.org/10.1111/j.1745-6606.2010.01170.x

Jahanzeb, A., Muneer, S., & Rehman, S.-U. (2012). Implication of Behavioral Finance in Investment Decision-making Process. *Information Management and Business Review*, *4*(10), 532–536.

Kahneman, D., & Tversky, A. (1982). The Psychology of Preferences. *Scientific American*, *246*(1), 160–173. http://www.jstor.org/stable/24966506

Kandpal, V., & Mehrotra, R. (2018). Role of Behavioral Finance in Investment Decision – A Study of Investment Behavior in India. *International Journal of Management Studies*, *IN*(4(6)), 39. https://doi.org/10.18843/ijms/v5i4(6)/06

Keswani, S., Dhingra, V., & Wadhwa, B. (2019). Impact of Behavioral Factors in Making Investment Decisions and Performance: Study on Investors of National Stock Exchange. *International Journal of Economics and Finance*, *11*(8), 80. https://doi.org/10.5539/ijef.v11n8p80

Kourtidis, D., Šević, Ž., & Chatzoglou, P. (2011). Investors' trading activity: A behavioural perspective and empirical results. *The Journal of Socio-Economics*, *40*(5), 548–557. https://doi.org/10.1016/j.socec.2011.04.008

Lathifatunnisa, & Nur Wahyuni, A. (2021). The Effect of Demographic Factors, Risk Tolerance and Overconfidence on Student Investment Decision Making in Pekalongan City. *Journal of Applied Business*, *5*(2), 203–216. https://doi.org/10.24123/jbt.v5i2.4688

Lintner, G. (1998). Why Investors Make Bad Decisions. *The Planner*, 8.

Lowies, G. A., Hall, J. H., & Cloete, C. E. (2016). Heuristic-driven bias in property investment decision-making in South Africa. *Journal of Property Investment & Finance*, *34*(1), 51–67. https://doi.org/10.1108/JPIF-08-2014-0055

Malik, A. (2021, October 8). *How to Understand Investor Risk Profile, Which Type Are You?* Bareksa.Com. https://www.bareksa.com/berita/belajar-investasi/2021-10-08/cara-memahami-profil-risiko-investor-kamu-termasuk-tipe-mana

March, J. G., & Shapira, Z. (1987). Managerial Perspectives on Risk and Risk Taking. *Management Science*, *33*(11), 1404–1418. https://doi.org/10.1287/mnsc.33.11.1404

Markowitz, H. (1952). Portfolio Selection*. *The Journal of Finance*, *7*(1), 77–91. https://doi.org/10.1111/j.1540-6261.1952.tb01525.x

Metawa, N., Hassan, M. K., Metawa, S., & Safa, M. F. (2019). Impact of behavioral factors on investors' financial decisions: case of the Egyptian stock market. *International Journal of Islamic and Middle Eastern Finance and Management*, *12*(1), 30–55. https://doi.org/10.1108/IMEFM-12-2017-0333

Mumaraki, J. N., & Nasieku, T. (2016). Effect of overconfidence on individual investment decision : Evidence from the investment

services sector in Kenya. *The International Journal of Business and Management*, *4*(10), 254–261.

Nababan, D., & Sadalia, I. (2013). Personal Financial Literacy Analysis and Financial Behavior of Undergraduate Students, Faculty of Economics, University of North Sumatra.*Management Information Media*, *1*(1).

Nofsinger, J. (2001).*Investment Madness: How Psychology Affects Your Investing and What to Do About It*. Prentice Hall.

Novianto, J., & Robin. (2021). Investor's Behavior and Stock Investment Decision in Batam City. *ACCOUNTABLE*, *18*(3), 532–542.

Nur Aini, N. S., & Lutfi, L. (2019). The influence of risk perception, risk tolerance, overconfidence, and loss aversion towards investment decision making. *Journal of Economics, Business & Accountancy Ventura*, *21*(3), 401. https://doi.org/10.14414/jebav.v21i3.1663

Olsen, R. A. (1998). Behavioral Finance and Its Implications for Stock-Price Volatility. *Financial Analysts Journal*, *54*(2), 10–18. http://www.jstor.org/stable/4480062

Pandey, R., & Jessica, V. M. (2018). Measuring behavioural biases affecting real estate investment decisions in India: using IRT. *International Journal of Housing Markets and Analysis*, *11*(4), 648–668. https://doi.org/10.1108/IJHMA-12-2017-0103

Pertiwi, T. K., Yuningsih, Y., & Anwar, M. (2019). The biased factors of investor's behavior in stock exchange trading. *Management Science Letters*, 835–842. https://doi.org/10.5267/j.msl.2019.3.005

Rahmayanti, W., Sri Nuryani, H., & Salam, A. (2019). The Effect Of Financial Attitude And Financial Behavior On Financial Literacy. .*Journal of Management and Business*, *2*(1). https://doi.org/10.37673/jmb.v2i1.267

Rajeshwaran, N. (2020). The Impact of Behavioural Factors on Investment Decision Making and Performance of CSE Investors in Eastern Province of Sri Lanka. *Sri Lanka Journal of Economic Research*, *8*(1), 27. https://doi.org/10.4038/sljer.v8i1.123

Ratnadi, N. M. D., Widanaputra, A. A. G. P., & Putra, I. N. W. A. (2020). Behavioral Factors Influencing Investment Decision-Making By College Student: An Empirical Study In Bali Province, Indonesia. *International Journal of Scientific & Technology Research*, *9*(2), 1358–1368.

Ricciardi, V. (2007). A Literature Review of Risk Perception Studies in Behavioral Finance: The

Emerging Issues. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.988342

Ritter, J. R. (2003). Behavioral finance. *Pacific-Basin Finance Journal*, *11*(4), 429–437. https://doi.org/10.1016/S0927-538X(03)00048-9

Sashikala, V., & Chitramani, P. (2018). The Impact of Behavioural Factors on Investment Intention of Equity Investors. *Asian Journal of Management*, *9*(1), 183. https://doi.org/10.5958/2321-5763.2018.00028.8

Seraj, A. H. A., Alzain, E., & Alshebami, A. S. (2022). The roles of financial literacy and overconfidence in investment decisions in Saudi Arabia. *Frontiers in Psychology*, *13*.

Servon, L. J., & Kaestner, R. (2008). Consumer Financial Literacy and the Impact of Online Banking on the Financial Behavior of Lower-Income Bank Customers. *Journal of Consumer Affairs*, *42*(2), 271–305. https://doi.org/10.1111/j.1745-6606.2008.00108.x

Sewell, W. (2005). *Logics of History: Social Theory and Social Transformation*. The University of Chicago Press.

Shah, S. Z. A., Ahmad, M., & Mahmood, F. (2018). Heuristic biases in investment decision-making and perceived market efficiency. *Qualitative Research in Financial Markets*, *10*(1), 85–110. https://doi.org/10.1108/QRFM-04-2017-0033

Sindhu, R., Jandail, R. R. S., & Kumar, R. R. (2014). A novel approach for sentiment analysis and opinion mining. *International Journal of Emerging Technology and Advanced Engineering*, *4*(4), 522–527.

Siraji, M. (2019). Heuristics Bias and Investment Performance: Does Age Matter? Evidence from Colombo Stock Exchange. *Asian Journal of Economics, Business and Accounting*, 1–14. https://doi.org/10.9734/ajeba/2019/v12i430156

Siregar, D. K., & Anggraeni, D. R. (2022). The Influence of Financial Literacy and Financial Behavior on Student Investment Decisions.*Bussman Journal : Indonesian Journal of Business and Management*, *2*(1), 96–112.

Slovic, P. (1972). Psychological Study of Human Judgment: Implications for Investment Decision Making. *The Journal of Finance*,

27(4), 779. https://doi.org/10.2307/2978668

Subramaniam, A., & Velnampy, T. (2017). The Role of Behavioural Factors in the Investment Decisions of Household Investors. *International Journal of Accounting and Financial Reporting*, *7*(1), 392. https://doi.org/10.5296/ijafr.v7i1.11421

Susanti, S. (2017). w,*4*(1), 5. https://doi.org/10.26740/jepk.v4n1.p5-17

Tamimi, N., & Sebastianelli, R. (2017). Transparency among S&P 500 companies: an analysis of ESG disclosure scores. *Management Decision*, *55*(8), 1660–1680. https://doi.org/10.1108/MD-01-2017-0018

Titman, S., Keown, A. J., & Martin, J. D. (2018). *Financial Management: Principles and Applications* (13th ed.). Pearson.

Ton, H. T. H., & Dao, T. K. (2014). The Effects of Psychology on Individual Investors' Behaviors: Evidence from the Vietnam Stock Exchange. *Journal of Management and Sustainability*, *4*(3). https://doi.org/10.5539/jms.v4n3p125

Upadana, I. W. Y. A., & Herawati, N. T. (2020). The Effect of Financial Literacy and Financial Behavior on Student Investment Decisions.*Scientific Journal of Accounting and Humanics*, *10*(2), 126. https://doi.org/10.23887/jiah.v10i2.25574

Yolanda, Y., & Tasman, A. (2020). The Influence of Financial Literacy and Risk Perception on Investment Decisions of the Millennial Generation in Padang City.*EcoGen*, *3*(1), 144–154.

Yosra Mefteh Rekik, Y. M. R. (2013). Determinants of Individual Investors' Behaviors: Evidence from Tunisian Stock Market. *IOSR Journal of Business and Management*, *8*(2), 109–119. https://doi.org/10.9790/487X-082109119