Reviewer __Quality - Access to Success

F ReplyForward

Dear Fitri Wulandari

I believe that you would serve as an excellent reviewer of the manuscript, "THE EFFECT OF OPTIMISM BIAS BIAS AND OVER CONFIDENCE ON INVESTMENT DECISIONS IN ACEH MEDIATED BY HERDING," which has been submitted to Quality - Access to Success. The submission's abstract is inserted below, and I hope that you will consider undertaking this important task for us.

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Thank you for considering this request.

Ismail Hakki Mirici,

hakkimirici@gmail.com

"THE EFFECT OF OPTIMISM BIAS BIAS AND OVER CONFIDENCE ON INVESTMENT DECISIONS IN ACEH MEDIATED BY HERDING"

The purpose of this research is to test and analyze the effect of optimism bias and over confidence in improving investment decisions in Aceh, mediated by herding variables. This type of research is survey research using a questionnaire as a data collection tool. The respondents who were used as the research sample were investors in IDX Aceh, totaling 115 people. Whereasdata analysis method in this study using *Structural Equation Model*(SEM) AMOS. The effect of biased optimism and over confidence is

proven statistically significant in influencing investors' investment decisions at IDX Aceh. Likewise, there is a direct significant effect between the variable over confidence on investment decisions and the influence relationship between over confidence on investment decisions. However, the effect of optimism bias and over confidence on investment decisions has a higher and significant value if there is a herding variable as a mediator. The relationship of influence (effect) of exogenous variables to endogenous variables is relatively small, this is possible because the number of samples studied is very small (115 respondents), and with sample characteristics that tend to be homogeneous (in one unit scope, namely IDX Aceh). IDX Aceh should focus on building investor confidence, by providing various trading trainings, and updating knowledge about stock analysis.Able to provide an in-depth understanding of the herding behavior of Islamic stock products in making investor decisions in various circles in Aceh so that they are interested in investing, especially buying shares. Investment achievement for IDX Aceh is not seen through how much profit the company generates, but how investors feel satisfied with the services and various pro-investor policies provided by the organization. So that the role of bias optimism, over confidence and herding is very crucial in the stock exchange (IDX Aceh) in ensuring the creation of superior, quality, professional and accountable investment decisions.

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For author and editor

1. In general, authors need to follow authors' guidelines, for example, writing abstracts <250 words, editing articles, using primary references, and adding recent journals (at least the last 5 years).
2. Add herding reference as a mediating variable for the effect of optimism bias and overconfidence on investment decisions
3. Hypotheses in research should have 5 direct hypotheses and 2 mediation hypotheses to make it easier to see the research model and research results also show that there are 7 hypotheses;
   H1: Optimism bias has a positive and significant effect on investment decisions
   H2: Over Confidence has a positive and significant effect on investment decisions
   H3: Optimism bias has a positive and significant effect on herding
   H4: Over Confidence has a positive and significant effect on Herding
   H5: Herding has a positive and significant effect on investment decisions
   H6: Herding mediates the relationship between optimism and bias in investment decisions
   H7: Herding mediates the relationship between overconfidence in investment decisions

4. Research method: It is necessary to explain the sampling technique and measurement of the variables.
5. Discussion: this section is followed by an explanation that contains the research results by comparing the relevant literature or research. The research position must be clear whether it aligns with or against the literature.
6. Conclusion:
   Please present clearly by concluding research results, implications, limitations, and recommendations.
7. References: use at least 80% of the primary reference sources (international journals) in the last 10 years. Gap research uses research from the last 3 years. The following is an example of a journal that can be used as a reference.
   a. Chen, C., Ishfaq, M., Ashraf, F., Sarfaraz, A., Wang, K., 2022, Mediating Role of Optimism Bias and Risk Perception Between Emotional Intelligence and Decision-Making: A Serial Mediation Model, Frontiers in Psychology. 13,828956
   b. Kaur, J. . 2022. Impact of stockbrokers' services on the trust and confidence of retail equity investors: an ordinal approach. International Journal of Law and Management
   c. Aljughaiman, A.A., Chebbi, K.E. 2022. Do Investor Overconfidence and Loss Aversion Drive Saudi Firm Market Performance? The Moderating

Effect of Corporate Governance. Sustainability (Switzerland). 14(16),10072

d. Kartini, K., Nahda, K .2021. Behavioral Biases on Investment Decision: A Case Study in Indonesia. Journal of Asian Finance, Economics and Business 8(3), pp. 1231-1240
e. Yi, C.P., Pin, L.Y., Gee, L.G.B. 2019. Factors affecting overconfidence of opportunistic investors in Malaysia. ACM International Conference Proceeding Series pp. 52-56
f. Islam Khan, M.T., Tan, S.-H., Chong, L.-L. 2016. The effects of stated preferences for firm characteristics, optimism and overconfidence on trading activities. International Journal of Bank Marketing 34(7), pp. 1114-1130
g. Goyal, P., Gupta, P., Yadav, V. 2023. Antecedents to heuristics: decoding the role of herding and prospect theory for Indian millennial investors. Review of Behavioral Finance 15(1), pp. 79-102

THE EFFECT OF OPTIMISM BIAS AND OVER CONFIDENCE ON INVESTMENT DECISIONS IN ACEH MEDIATED BY HERDING

Zuraidah[1], M. Shabri[2], Faisal[3], A. Sakir[4]

[1]First Author and Corresponding Author. Doctorate Program, Department of Management, Faculty of Economics and Business, University of Syiah Kuala, Banda Aceh, Indonesia [Postal Address: Jl. Teuku Nyak Arief No. 441, Kopelma Darussalam, Kec. Syiah Kuala, City of Banda Aceh, Aceh 23111, Indonesia] Email:zuraidah@unmuha.ac.id

[2]Professor, Department of Management, Faculty of Economics and Business, University of Syiah Kuala, Banda Aceh, Indonesia. E-mail:mshabri@unsyiah.ac.id

[3]Professor, Department of Management, Faculty of Economics and Business, University of Syiah Kuala, Banda Aceh, Indonesia. E-mail:faisalekm@unsyiah.ac.id

[4]Lecture, Department of Management, Faculty of Economics and Business, University of Shia Kuala, Banda Aceh, Indonesia. E-mail:asakirjh1975@unsyiah.ac.id

Abstract

The purpose of this research is to test and analyze the effect of optimism bias and over confidence in improving investment decisions in Aceh, mediated by herding variables. This type of research is survey research using a questionnaire as a data collection tool. The respondents who were used as the research sample were investors in IDX Aceh, totaling 115 people. Whereasdata analysis method in this study using *Structural Equation Model*(SEM) AMOS. The effect of biased optimism and over confidence is proven statistically significant in influencing investors' investment decisions at IDX Aceh. Likewise, there is a direct significant effect between the variable over confidence on investment decisions and the influence relationship between over confidence on investment decisions. However, the effect of optimism bias and over confidence on investment decisions has a higher and significant value if there is a herding variable as a mediator. The relationship of influence (effect) of exogenous variables to endogenous variables is relatively small, this is possible because the number of samples studied is very small (115 respondents), and with sample characteristics that tend to be homogeneous (in one unit scope, namely IDX Aceh). IDX Aceh should focus on building investor confidence, by providing various trading trainings, and updating knowledge about stock analysis.Able to provide an in-depth understanding of the herding behavior of Islamic stock products in making investor decisions in various circles in Aceh so that they are interested in investing, especially buying shares. Investment achievement for IDX Aceh is not seen through how much profit the company generates, but how investors feel satisfied with the services and various pro-investor policies provided by the organization. So that the role of bias optimism, over confidence and herding is very crucial in the stock exchange (IDX Aceh) in ensuring the creation of superior, quality, professional and accountable investment decisions.

Comment [Aa51]: Follow the abstract guidelines of no more than 250 words

Keywords: *optimism*bias, over confidence, herding and investment decisions.

INTRODUCTION

Investment is an investment activity or money in a particular company or project with the hope of providing benefits within a predetermined period of time. Individuals or groups that carry out investment activities are referred to as investors, while the type of investment can be in the form of physical investment (real assets) in the form of tangible objects or non-physical investment (financial assets) in the form of financial investments. Investment is essentially a sacrifice made by investors in the present to gain profits in the future by considering the risks they face. Before choosing an investment instrument, the main aspects that are considered by investors in making investment decisions are risk and returns.

Investor decisions in choosing investment instruments, including those choosing stocks, are closely related to the cognitive and psychological factors that shape investor behavior patterns. Sometimes investors in the stock market in making decisions show opportunistic behavior that is very high and irrational which allows errors in decision making. This biased behavior is very prone to causing systematic errors and the choice of every investment decision is only to satisfy personal desires but does not maximize benefits, this event is known as behavioral finance. In the psychology literature it is found that mistakes made by a person systematically arise from his mindset, because of his belief in his abilities and is very dependent on past experience.(Gao, et al, 2013).

In the psychology literature it is found that mistakes made by a person systematically arise from his mindset, because of his belief in his abilities and is very dependent on past experience.(Gao, et al, 2013). Information can be in the form of data that is processed and has use value and benefits within a certain period of time(Sodeman, 2007). Based on classical financial theory, investors will generally act rationally and have the ability to process any information they receive (Ricciardi & Simon, 2000). But accordingTrinugroho & Sembel, (2011)in practice, especially in the capital market, investors tend to reflect behavior that is completely irrational due to the influence of psychological factors which is contrary to classical financial theory.

The psychological attitude of investors is reflected when the condition of the rate of return and investment risk is in a state of uncertainty (Lakshmi & Minimol, 2016), investors are very confident or optimistic when they have analytical skills above the abilities of other investors(Pompian, 2006). The level of stock volatility is very volatile when measured by its value, directly proportional to the level of risk it has, so it is very natural for investors to be careful in making decisions.Tandelilin (2010). According to the concept of an efficient market, this capability is a reflection of the information capable of forming market prices (Fama, 1970). One of the capital market instruments that has become the focus of research is the stock market. Shares can be defined as the equity participation of a person or business entity in a company or limited liability company. The level of stock volatility is very volatile when measured by its value, directly proportional to the level of risk it has, so it is very natural for investors to be careful in making decisions.

*optimism*Healthy optimism is realistic optimism, because unrealistic biased optimism can lead individuals into underestimating real threats that should be anticipated and overcome. Investors who are exposed to the optimism bias tend to show bright prospects from their investments and believe they will get a positive return in the future. Because positive expectations will make investors tend to increase the amount of investment, trading frequency and investment intention(Khan,et al, 2016).Khan, et al (2016)argue that *optimism*bias tends to increase investor trading activity.(Fatima & Waqas, 2016)optimistic impact on investment decisions.Iqbal (2015), in his research explained that there is a significant relationship between optimism bias and investors' decisions in investing. In making decisions investors rely on their personal beliefs and judgments and become overestimated on their beliefs.

Comment [Aa52]: The research gap uses references for the last three years

The implication of bias over confidence is that investors tend to feel that the analysis on which their transaction decisions are based is correct, even though this is not the case. Case in point, an investor has just received a tokcer tip from a broker and read an article (which he thinks is very informative) about trading on the internet. After getting the information, he felt ready to take action. Finally he was determined to do stock trading based on new knowledge that he felt would bring him benefits. In fact, the knowledge possessed by these investors is not comprehensive and there are still many things that must be learned. Lucky if he happens to get a return that matches his expectations. What if it turns out that he even suffered a loss Zakirullah, 2020).

Investor behavior in making investment decisions can be influenced by several factors, such as cognitive factors, emotional factors and social factors that cause investors' actions to become irrational (Setiawan et al., 2018). Emotional factors will make investors less sensitive and unable to interpret information accurately so they prefer to follow the dominant group of decisions made by many people such as herding which makes investors unable to make their own decisions and tends to follow the decisions of others. When information is available but investors still follow market consensus it can be interpreted that this behavior is called herding behavior. Herding behavior occurs when investors face uncertainty about public sources of information and receive uncertainty regarding future signals from the company.(Kremer & Nautz, 2013), The act of herding accordingWaweru, Munyoki, & Uliana (2008), can be seen from several indicators, namely buying and selling; traded shares; volume of shares traded; speed of herding. Meanwhile, according to research conducted by(Salamouris & Gulnur Muradoglu, 2010)herding is influenced by informational cascades, reputational herding, investigative herding and empirical herding.

Comment [u3]: by Salamouris & Gulnur Muradoglu, (2010) herding is influenced

Given that developing country markets have conditions that are not easy to predict, due to lack of standard reporting and accounting factors, as well as expensive information acquisition, herding behavior and information cascades are more likely to occur in developing country markets than in developed markets (Yao, Ma, & He, 2014). In practice, investors also often do herding in financial markets, the tendency for investor behavior to follow the actions of others is due to a lack of understanding and information so that investors are also affected by the actions of other people. However, this does not mean that the act of herding carried out by investors will always end in failure, because after all the actions of investors with herding still have standards and benchmarks so that the investment is feasible or not feasible.

In researchAfriani & Halmawati (2019) stated that an investor exhibits herding behavior when investors have more dependence on information validated by many people and not on their own judgment, this is due to the perception that the choice or investment decision taken by the majority cannot be wrong. This research is in accordance with the findings of Danepo (2018), inAristiwati & Hidayatullah (2021), regarding the influence of herding behavior of investors on investment decisions, which shows that herding behavior has a positive and significant effect on investment decisions. This result can be interpreted that the greater the herding behavior of investors, the more it will affect their investment decisions. Finally, this research is important to do to test and analyze the optimism bias and over confidence in influencing the decisions of stock investors in Aceh. And what is the role and influence of the herding variable as a mediating variable for the relationship between optimism, bias and over confidence in investment decisions.

Comment [Aa54]: Use primary sources

LITERATURE REVIEWS

*optimism*bias

optimism(optimistic attitude) reflects a person's actions to achieve goals including the desire to get socio-economic benefits for the actions taken(Carver, et al, 2010). Optimism in the capital market and the economy is a manifestation of the decision to allocate shares(Khan et al., 2016). Optimism is a hope and positive thinking that is owned by investors outside of the actions or all the skills and efforts that are deployed to get results(Agrawal, 2012inSari, 2021), or it can be defined as a tendency to rely more on the hope that the probability of future profits is better than the present(Bracha & Brown, 2012). Investors who have a high optimistic attitude certainly cannot be separated from their ability to adjust their mindset with their value competencies, because this behavior influences high-risk decisions such as merger decisions, choosing to start investing or choosing the right investment behavior, optimism requires high intuition, because the more competent a person tends to be the more able to predict risks and outcomes that will be received later(Bracha & Brown, 2012).Optimism bias is an important element of investment decisions that is translated into microeconomic and macroeconomic analysis activities, which produce probability analysis of an event. For example, optimism can influence high-risk decisions, such as initial investment, investment behavior, and decisions.

Comment [Aa55]: Use primary sources

Over Confidence

*overconfidence*can be explained as the tendency of investors to react quickly to whatever comes their way without analyzing their decisions. So they will make decisions quickly and are very confident that the decisions they take are considered correct even without being based on sufficient information (Abreu & Mendes, 2012). Over confidence is a type of bias or inequality that arises naturally, which can affect the decision-making process of all human beings. The concept of bias itself was born from the assumption of Behavioral Finance, a study that believes that there is a psychological influence that influences investors in making investment decisions.

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Overconfidence is one of the most detrimental biases an investor can have. The reason is, confidence treats portfolios badly. Examples include underestimating downside risk, trading too often in pursuit of “hot stocks”, holding an underdeveloped portfolio, and not diversifying. Investors certainly feel great and are more confident when they get the maximum return, but they only really know the importance of minimizing risk by diversification when they already feel a loss.

Comment [Aa57]: Add the latest reference

herding

*herding*can be interpreted as following behavior, in behavioral finance, herding behavior is irrational investor behavior, because investors base their investment decisions not on the basis of economic fundamentals of a risky asset. If herding occurs, then the level of spread of stock returns can increase lower than the increase in market portfolio returns, even the level of spread of stock returns also decreases even though the market portfolio returns increase. Herding behavior can trigger an error in pricing a stock because there is a bias among investors in seeing the risk and expected return of a stock.

*herding*provide risky results because investors will tend to ignore the belief in their abilities and tend to follow the actions of other investors, the choice of the majority of people, as well as investment experts. This herding behavior is an irrational act in which investors in their investment decisions are not based on available information or the company's fundamental values, but based on the actions of other investors (Setiawan et al, 2018).

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Investation decision

Investor investment decisions are a reflection of the type of information received, including financial statement information, because investors in making investment decisions can act irrationally when they do not use financial report information.(Septyato & Adhikara, 2013). Because investors cannot fully trust themselves in making decisions, they tend to worry about the risks they will face, in stock investing one of the causes is the correction of the stock market price which is formed from a combination of individual market prices.(Vinet & Zhedanov, 2011). Investors also tend to make careful decisions regarding the company's reputation so as not to incur losses, this condition arises when investors intend to minimize risk.(Jao, et al., 2020), besides that the compensation received by investors from the results of the right decision is also the basis for consideration in making the right investment decision(Surtihati & Utama, 2017).

Relationship of Optimism Bias Against Investment Decisions

Research that examines the relationship between optimism and bias towards investment decisions has been carried out by several researchers, namelyKhan et al., (2016)bias optimism tends to increase investor trading activity,Fatima & Waqas, (2016)optimistic impact on investment decisions, andRiaz & Iqbal (2015)there is a significant relationship between biased optimism and investors' decisions in investing. In making decisions investors rely on their personal beliefs and judgments and become overestimated on their beliefs.(Khan et al., 2016)Relative investment bias optimism and personal investment optimism bias influence investment decisions. The optimism bias shows that investors tend to show good prospects for their investments. Because positive expectations will make investors tend to increase the amount of investment in decision making(Pompian, 2006). Investors will carry out biased behavior due to several things, including due to a lack of awareness, lack of self-confidence or precisely

because of optimistic behavior(Saxena et al., 2016). Investors affected by the optimism bias tend to show bright prospects from their investments and believe they will get a positive return in the future. Because positive expectations will make investors tend to increase the amount of investment, trading frequency and investment intention. In researchKhan et al., (2016)revealed that Optimism bias has a positive and significant effect on investment decisions, where the optimism component can be the main predictor of investment decisions.
Hypothesis 1:Optimism bias has a positive and significant effect on investment decisions

Relationship of Over Confidence Against Investment Decisions
Research conducted by Lakshmi & Minimol (2016) explored that the relationship between*overconfidence*and self-attribution shows a significant degree of correlation between them, the main thing in his research is that over confidence increases as the education level and investment experience of investors increases, and men are more confident than women. They also reveal the existence of a momentum effect in the Indian Exchange supporting the behavioral explanation that gains momentum is the result of an initial underreaction of traders followed by an eventual overreaction to company-specific news and overconfidence of investors about their own abilities. Furthermore, according to the research results of Khan, et al (2016) empirically tested the over confidence hypothesis on the Bombay Stock Exchange and showed empirical evidence in support of three main conclusions: first, over confidence investors overreact to private information and underreact to public information; secondly, it was observed that self-attribution bias, conditioned by correct estimates, increases investors; over confidence and trading volume; third, over-trading of over-confidence investors contributed to the observed. Over confidence implies overly optimistic judgments about one's knowledge of or control over a situation. The nature of this behavior learned a lot for the ability to invest. Individuals with this bias tend to believe they are better than others when choose the best stock and the best time of its excessive volatilityobserved. Over confidence implies an overly optimistic judgment about one's knowledge or control over a situation. This behavioral trait is widely studied for the ability to invest. Individuals with this bias tend to believe they are better than others at picking the best stocks and the best times.

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Hypothesis 2:Over Confidence has a positive and significant effect on investment decisions

The Role of Herding as a Mediating Variable
The relationship between bias optimism in investment decisions has been proven through various studies (Hoffmann et al., 2013, Khan et al., 2017 and Fatima & Waqas, (2016). From the many empirical evidences from the results of previous research, it turns out that there is still an insignificant relationship between optimism bias and investment decisions.Study(Reivich & Shatte, 2002)demonstrated that biased optimism often pairs with self-efficacy (an individual's belief in his or her ability to succeed at something). Such optimism bias will motivate someone to work hard to find solutions and improve the situation. However, a healthy biased optimism is a realistic biased optimism, because unrealistic biased optimism can lead individuals to underestimate real threats that should be anticipated and overcome.

Comment [Aa512]: Mendeley. Add herding referrals as a mediating variable for the influence of OPTIMISM BIAS and Over Confidence ON INVESTMENT DECISIONS

Meanwhile, the relationship between overconfidence in investment decisions has also been proven in various studies (Budiarto & Susanti, 2017; Adielyanidi & Mawardi, 2020; and Lowies, 2016).From various previous studies that have become researchers' references, the Herding

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variable has been proven to be a mediator between biased optimism and overconfidence in investment decisions. For example, in Jin's research (2016) herding acts as a mediator and herding is able to improve investors' investment decisions on the stock exchange. This study examines the relationship between*stock price synchronicity*and stock price crash riskwith herding as a mediating variable.

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Hypothesis 3:Herding mediates the relationship between optimism bias on investment decisions

Hypothesis 4:Herding mediates the relationship between overconfidence in investment decisions

RESEARCH METHODS

This research is focused onAceh IDX investors using explanatory research and quantitative research models which will empirically explain and estimate the effect of optimism bias and overconfidence on investment decisions and herding as mediation. The sample in this study were 115 investors in IDX Aceh. The guideline used in the parameters that have been estimated is 5-10 times, this is in accordance with the opinion of Hair et al (2016) because there are 23 indicators used, so the sample used is 115 people. This already meets the standard number of samples. According to Gozhali (2016) the minimum number of samples that can be processed using the Structural Equation Model (SEM) analysis technique is 100 to 200 samples.

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Comment [Aa517]: The sampling technique has not yet been explained

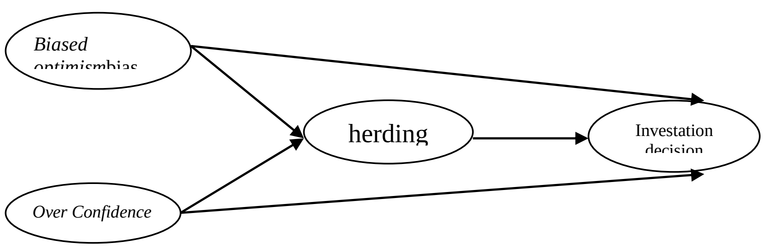

Image 1.
Research Model

The data measurement scale used in this study consists of an interval scale in the form of a Likert scale of 1 to 5. This scale is intended to give weight or score to alternative choices of respondents' answers to each item of questions related to the variables studied (Ferdinand, 2016). By using the AMOS Structural Equation Model (SEM) analysis technique, a model is declared feasible if each of these indices has a cut of value as shown in the following table:

Comment [u18]: mendeley

Comment [Aa519]: there is no variable measurement/variable indicator

Table 1
Goodness of Fit Indices

Goodness of Fit Indices	***Preferable Cut-off Value***
x^2-*chi-square*	Expected small (belowx^2table)
Significance Probability	≥ 0.05
RMSEA	≤ 0.08
GFI	≥ 0.90
AGFI	≥ 0.90
CMIN/DF	≤ 2.00
TLI	≥ 0.95
CFI	≥ 0.95

Source: Ghozali (2016)

ANALYSIS RESULTS

Meanwhile, after the measurement model is analyzed through confirmatory factor analysis and it is seen that each indicator can be used to define a latent construct, a full AMOS SEM model can be analyzed.

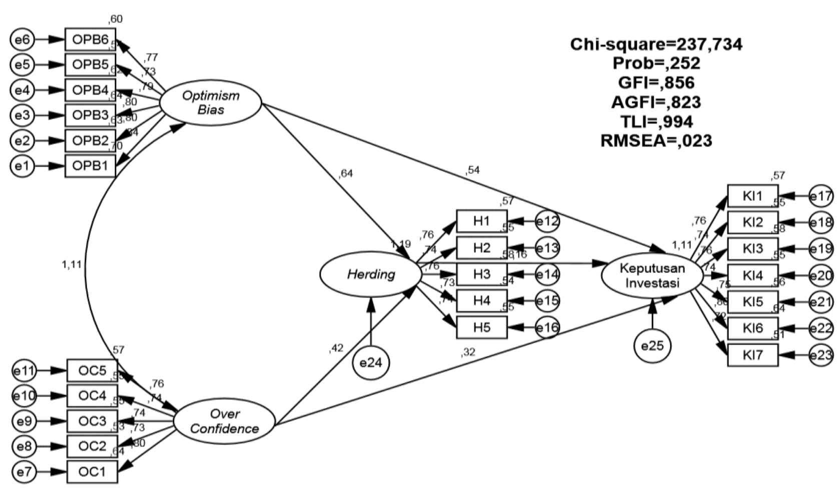

Figure 2.

AMOS Structural Equation Modeling (SEM) analysis

Source: AMOS output (data processed), 2022

The test results show that none of the indicators has a range > ± 3, so it can be concluded that there are no data with univariate outliers. The results of the normality test show that the CR value for the multivariate is 1.943 which is below 2.58, so it can be said that there is no evidence that the distribution of the observed variable data is not normal. The value of each latent variable and manifest variable also meets predefined criteria. In this case, the number used as the basis for the analysis is the probability number (P) with $\alpha = 0.05$. If probability < 0.05 then the model is accepted (there is influence between variables). If probability > 0.05 then the model is rejected (no influence between variables). The SEM model contains three forms with each form having more than three items (observed variables), the resulting communality of each item is > 0.6, so it can be estimated with sufficient samples between 100-200 samples. The sample size used in this study amounted to 115 samples so it can be concluded that the model meets the sample size assumption.

The model suitability indices used are the same as in the confirmatory factor analysis. SEM model testing is intended to see the suitability of the model. The results of the processing carried out are presented in table 2 below:

Table 2
Feasibility Test Results

Structural Equation Model (SEM)

Goodness of Fit Index	***Cutoff value***	**Results**	**Model Evaluation**
Chi-Square (df=132)	Small (< 262,070)	237, 734	Well
probability	≥ 0.05	0.25 2	Well
RMSEA	≤ 0.08	0.02 3	Well
GFI	≥ 0.90	0.85 6	marginal
AGFI	≥ 0.90	0.82 3	marginal
TLI	≥ 0.95	0.99 4	Well

Source: AMOS output (data processed), 2022

Based on the results presented in the table above, it can be seen that the Chi Square value = 237,734 with a probability = 0.171. This shows that the null hypothesis which states that there is no difference between the sample covariance matrix and the estimated population covariance matrix cannot be rejected. In addition, the other feasibility indices are also within the range of expected values so that the structural equation model is fit and this model is acceptable.

Judging from the construct validity value of the model, it meets the good criteria of average variance extracted and composite reliability. This can be seen from all values greater than the cut off. For more details, the construct validity value of the measurement model can be seen in Table 3.

Table 3

Results of Construct Measurement Model Validity

Variable	**Construct Validity**				**Information**
	Cut Off	**AVE**	***Cut Off***	**CR**	
*optimism*bias	≥ 0.50	0.62	≥ 0.70	0.90	Well
Overconfidence	≥ 0.50	0.57	≥ 0.70	0.87	Well
herding	≥ 0.50	0.56	≥ 0.70	0.86	Well
Investation decision	≥ 0.50	0.57	≥ 0.70	0.87	Well

Information:
Average Variance Extracted (AVE)
Composite Reability (CR)

Source: MS Excel output, 2022

Thus the value of the Goodness of Fit Test and construct validity have met the requirements and the value is fit, so that the construct measurement model of this study is suitable for use in structural model analysis.

Testing the hypothesis in this study using the methoddata analysis*Structural Equation Model*(SEM) AMOS. After assessing the suitability of the model through goodness of fit analysis and the assumptions in the SEM, then hypothesis testing will be carried out. In accordance with the research objectives, the fundamental question that we wish to investigate further is regarding the effect of biased optimism and overconfidence on investment decisions in Aceh mediated by herding. Based on processing, the following results are obtained:

Table 4

Hypothesis test

	Std. Est	**Estimates**	**SE**	**CR**	**P**

			Std. Est	Estimates	SE	CR	P
herding	<---	*optimism*bias	0.640	0.580	0.051	11,435	***
herding	<---	*Overconfidence*	0.424	0.389	0.040	9,717	***
Investation decision	<---	*optimism*bias	0.537	0.510	0.051	10010	***
Investation decision	<---	*Overconfidence*	0.325	0.313	0.036	8,674	***
Investation decision	<---	*herding*	0.160	0.168	0.034	4,948	***

Source: AMOS output (data processed), 2022

In this case, the number used as the basis for the analysis is the probability number (P) with α = 0.05. if probability < 0.05 then the model is accepted (there is influence between variables). If probability > 0.05 then the model is rejected (no influence between variables). Table 5 shows the results of hypothesis testing, where the relationship between the influence of Optimism bias on investment decisions is proven to have a positive and significant relationship, namely a significant value of 0.000 <0.05 (H1 is accepted). The relationship between the influence of over confidence on investment decisions is also proven to be significant, namely a significant value of 0.000 <0.05 (H2 is accepted).

Testing the Mediating Role of Herding Variables

To test the role of the mediating effect on the herding variable, the Baron and Kenny (1986) model was used. Based on data processing, the following results are obtained:

Comment [u20]: mendeley

Table 5
The Summary Optimism model is biased

Model	R	R Square	Adjusted R Square	std. Error of the Estimate	Change Statistics				
					R Square Change	FChange	df1	df2	Sig. FChange
1	.973a	.946	.946	.167	.946	1983.306	1	113	.000
2	.992b	.984	.984	092	038	262,258	1	112	.000

a. Predictors: (Constant), Optimism bias

b. Predictors: (Constant), Optimism bias, Herding

Source: output (data processed), 2022

Coefficient of Determination (R^2) is used to find out how much the total variation in the endogenous variables is explained by the exogenous variables shown in percentage. From the results of data analysis, it shows that the results of the optimistic variable are biased towards investment decisions before using the mediating variable, namely herding, an R^2 of 0.946 shows that the optimistic variable is biased towards investment decisions by 94.6%. While the remaining 5.4% is explained by other variables not included in the model. If the optimistic variable is biased towards investment decisions using a mediating variable, namely herding, an R2 of 0.984 is obtained. This indicates that the optimism variable is biased towards investment decisions using a mediating variable, namely herding, of 98.4%. While the remainder is 1. 6% is explained by other variables not included in the model. This means that the herding variable acts as a mediator variable and mediates the relationship between optimism and investment decisions by 0.038.

Table 6

Summary Model Over confidence

Model	R	R Square	Adjusted R Square	std. Error of the Estimate	Change Statistics				
					R Square Change	FChange	df 1	df2	Sig. FChange
1	.973a	.947	.947	.165	.947	2026664	1	113	.000
2	.992b	.984	.983	092	.036	250,365	1	112	.000

a. Predictors: (Constant), Over confidence

b. Predictors: (Constant), Over confidence, Herding

Source: output (data processed), 2022

Coefficient of Determination (R^2) is used to find out how much the total variation in the endogenous variables is explained by the exogenous variables shown in percentage. From the results of data analysis, it shows the results of the variable over confidence in investment decisions before using the mediator variable, namely herding, an R^2 of 0.947 shows that the variable over confidence in investment decisions is 94.7%. While the remaining 5.3% is explained by other variables not included in the model. If the over confidence variable for investment decisions uses a mediator variable, namely herding, an R2 of 0.983 is obtained. This indicates that the over confidence variable for investment decisions using a mediator variable, namely herding, is 98.3%. While the remainder is 1. 7% is explained by other variables not included in the model. This means that the herding variable acts as a mediator and mediates the over-confidence relationship with investment decisions of 0.036.

DISCUSSION

Investor investment decisions are a reflection of the type of information received, including financial statement information, because investors in making investment decisions can act irrationally when they do not use financial report information. Because investors cannot fully trust themselves in making decisions, they tend to worry about the risks they will face, in stock investment one of the causes is the correction of the stock market price which is formed from a combination of individual market prices. Investors also tend to make careful decisions regarding the company's reputation so as not to incur losses, this condition arises when investors intend to minimize risk. besides that the compensation received by investors from the results of the right decision is also the basis for consideration in making the right investment decision. Investment decisions are also heavily influenced by cognitive and emotional knowledge and group dynamics play an important role, because groups are able to create ideas and also have an impact on individual actions.

The investment decision is the result of an investor's assessment based on the information and competence possessed, so that this assessment can lead to differences in making investment decisions between one investor and another. Empirical research based on a review study conducted byShukla et al., (2020)It was found that investment decisions are closely related to financial behavior and behavioral biases from investors. This study analyzed seven behavioral biases, namely over confidence, herding, disposition effect, anchoring, loss aversion, mental accounting and representativeness which affect investment decisions.

In investing activities, investors who still have high enthusiasm do not take risks into account, for this reason young investors have a strategy that does not only look at fundamental analysis (long term) and technical analysis (short term), such as research.conducted by Pak & Mahmood (2015)found that in decision making investors show high or irrational opportunities. Rational investor decisions occur under certain conditions of uncertainty and risk. Optimism becomes a positive hope regardless of the special effort and skills by investors to get the result. The optimism bias is a type of emotional bias and investors tend to be more optimistic about economic markets and the positive performance of their portfolios. Investors are very susceptible to optimism bias. Optimism bias can cause investors to make excessive decisions. In the psychological literature it is explained that everyone is susceptible to optimism bias and in recent years the optimism bias has received a lot of attention from researchers in the field of financial behavior. Agrawal (2012) in his research stated that optimism is about positive expectations regardless of the effort and skills devoted to investors to get these results. If investors benefit from a company that matches their expectations, they will invest in the same company next year, whereas if investors' expectations are not met, investors will no longer invest in that company.

In this study, hypothesis 1, namely testing the direct effect of the optimistic bias relationship on investment decisions, namely IDX Aceh, proved positive and statistically significant (p 0.000 <0.05). This study proves and reinforces the findings of previous researchers who revealed the role of optimism bias on investment decisions (Khan et al., 2016; Fatima & Waqas, 2016; Riaz & Iqbal, 2015). For indirect testing with the herding variable as a mediator it is also proven significant (Hypothesis 3 is accepted) in the relationship between the effect of optimism bias on investment decisions. Likewise with the results of testing Hypothesis 2 which proved statistically significant, namely there was a direct effect relationship between overconfidence on investment decisions in Aceh (p 0.000 <0.05). However, in indirect testing by including the herding variable as a mediator into the relationship model, the effect of over confidence on investment decisions actually has a higher value and is proven significant (Hypothesis 4).

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It is interesting to note that herding plays an important role as a mediator in the relationship between optimism, bias and overconfidence in investment decisions. The role of optimism, bias and over confidence for investors at IDX Aceh has a very important role to increase their confidence in making investment decisions, as well as the role*Overconfidence*increased as investors' educational level and investment experience increased, and men were more self-confident than women. Over confidence implies overly optimistic judgments about one's knowledge of or control over a situation. The nature of this behavior learned a lot for the ability to invest. Individuals with this bias tend to believe they are better than others when choose the best stock and the best time of its excessive volatilityobserved. Over confidence implies an overly optimistic judgment about one's knowledge or control over a situation. This behavioral trait is widely studied for the ability to invest. Individuals with this bias tend to believe they are better than others at picking the best stocks and the best times.

CONCLUSION

Investment decisions at IDX Aceh are influenced by the direct role of bias optimism and the indirect role of herding as a mediator of the relationship between the influence of optimism bias and over confidence on investment decisions. However, the role of herding has the most crucial role in the influence relationship between optimism and overconfidence on investment decisions, where if there is no role of herding as a mediator then this direct relationship is not so high. With the extraordinary optimism of bias and overconfidence possessed by investors at IDX Aceh, it is hoped that it will be able to boost investment decisions so that it can add new investors from various circles, both young and old, and make IDX Aceh one of the leading sharia stock exchanges in Indonesia.

The results of this study indicate the large role of bias optimism, over confidence and herding in achieving optimal investment decisions. Therefore, the policy implications recommended for IDX Aceh are (1) focuson investment decisions because these depend on the investment decisions of others.(2)react quickly to changes in the decisions of other investors because it is a new opportunity. (3)Updating knowledge about stock analysis by conducting surveys and upgrading investors, especially among young people by providing special trading training. Thus, it will increase the interest of investors to invest in IDX Aceh, especially in the Islamic stock investment section.

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