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THE INFLUENCE OF DEMOGRAPHIC FACTORS AND FINANCIAL LITERACY ON INVESTMENT DECISIONS MEDIATED BY BEHAVIORAL FINANCE (EMPIRICAL STUDY: ON CAPITAL MARKET INVESTORS IN DKI JAKARTA)

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ABSTRACT: Financial literacy is only one of many aspects that have a role in the choice of investments to make. This study investigates how knowledge of behavioral finance might influence investing choices for those with a basic understanding of personal finance. In this study, we used a structural equation modeling (SEM) approach. This finding demonstrates that financial knowledge has a role in moderating undesirable actions. Similarly, investment choices benefit from both financial knowledge and behavioral finance as a mediator. Market momentum may be gained if individual investors engage in behavior that can be managed via careful preparation and the use of sound financial principles. Which aids in maximizing profit, improving investment and portfolio performance, minimizing risk, making more informed investment decisions, and coming up with effective trading methods.

Keyword: Financial Literacy, Behavioral Finance, Investment Decision.

INTRODUCTION

Putting money into assets with the expectation of a return or increase in value requires taking certain risks over a long period of time (Sarkar and Sahu, 2018). Consumption today is a form of sacrifice for profit later in the process. Putting aside money or other resources in the hope of making a profit in the future is a kind of sacrifice. It involves managing an individual's assets and level of wealth by comparing the current value of wealth or assets with their future value. Individuals who carry out the investment process, both on behalf of the company and as individuals who set aside assets, are called investors (Jensen and Jones, 2020). These investors can be said to be the main pillars in the investment world (Sarkar and Sahu, 2018).

Every investor needs to realize that investing always involves consideration of time and the interrelated characteristics of *risk and return*. The greater the potential reward,

the greater the associated risk. Conversely, if the risk is low, the rate of *return* obtained also tends to be low. Although there are some investments that are considered *risk free*, there are still small risks that may occur (Jensen and Jones, 2020). Meanwhile, in the context of time, investment is related to the term of the asset invested. The rate of *return* generated is related to a certain level of risk, and this affects the choice of investment products for investors. Therefore, investment can be considered a sacrifice, because investors set aside some of their wealth or assets to invest in a certain period of time. However, there is no guarantee that investors will get optimal *returns* or increase their wealth or assets. In fact, there is a risk of loss that must be considered. Therefore, making investments requires high commitment (Baker, Nofsinger, and Spieler, 2020).

Investment has a wide range and scope, both in terms of the type of activity and the type of investment product. One commonly known form of investment is real investment (*economic investment*), which involves the purchase of physical assets such as buildings, land, physical gold, and the like. These assets have a form that can be seen or felt physically. On the other hand, there are also investments that are not physically visible (*financial investment*), which requires additional knowledge. Examples are mutual funds, time deposits, insurance policies, stocks, bonds, market commodities, foreign exchange, and others. This kind of investment has no physical form and involves proof of written transactions in the form of history or reports, such *as emails*, made through certain institutions or bodies as facilitating parties. One form of investment that is quite popular and common is stock investment (Sarkar and Sahu, 2018).

The presence of leading companies and the possibility of lucrative profits from sources such as dividend payments and capital gains have contributed to the widespread acceptance and prevalence of stock market investments. However, stock investment also has disadvantages, including the possibility of loss of capital due to stock price fluctuations (discounts) and the company will go bankrupt or liquidated by the government. The secondary market, often called the capital market, is where investors buy and sell stocks. The Indonesia Stock Exchange acts as an institution that facilitates such transactions, with securities as intermediaries between buyers and sellers, as well as providers of secondary market information. Stocks are grouped into 12 types based on the industry or sector of the moving company. Shares are a symbol of individual or business entity participation as investors in a company. Investors who have purchased shares of a company own shares of the company's profits and assets, including dividends, and are entitled to vote at the

annual shareholders meeting (GMS) (Baker, Nofsinger, and Spieler, 2020).

According to the *efficiency market hypothesis*, stock investment in the secondary market is supported by the participation of investors who have a similar mindset in terms of ability, financial knowledge, consideration, and information management for investment decision making. This reflects the rational mindset of investors and creates efficient market conditions. In this context, market efficiency occurs because all stocks listed on the stock exchange can be publicly traded, and no investor can buy or sell shares below or above a predetermined price in the secondary market. Available information, including *real-time* data and charts, provides a reference for investors in predicting stock price movements and responding to future markets (Jensen and Jones, 2020) and (Ozen and Ersoy, 2019). Thus, the availability and accuracy of information becomes important for investors in anticipating stock price movements and making investment decisions.

However, in practice, stock investments often do not match expectations because the decisions taken by investors are influenced by the uncertainty and complexity of the market situation. This has consequences for investors on mental, emotional, cognitive, behavioral, and informational levels. Therefore, investment decision making is influenced by behavior. In addition, investment decision making is always evolving because the decision is formed based on the influence of the social, psychological, and educational environment, as well as knowledge of financial management. Risk and reward considerations, economic factors, and sociology also influence behavior in decision making (Kartini and Nugraha, 2015). Some investor behaviors include following other investors who are considered experts, taking references from securities, social media, discussion forums, friends, family, so that risks and benefits are felt together. Investors are also tempted or provoked by the lure of certain prices and stocks, influenced by emotions in responding to price movements by buying at high prices without considering risk, overconfident in stock valuations or experiencing large losses resulting in fear, lack of confidence, or regret for losing stocks. In addition, investor confidence in certain companies can decline or buy shares excessively in the same sector based on previous profit experience, and many more (Beatrice, Murhadi, and Herlambang, 2021), (Rahman and Gan, 2020), (Zabera and Bansal, 2018), and (Kartini and Nugraha, 2015). Efficiency market theory (Baker and Puttonen, 2017) explains why this causes a gap between what investors are supposed to do and what they actually do (the "behavior gap"). In addition, there is no single best method to invest; however, through education and experience, investors can reduce the negative impact of their own emotions and biases (Baker, Nofsinger, &; Spieler, 2020). The ability

to make good investment choices is critical to financial success.

One element that supports knowledge growth is a measure of a person's familiarity with basic ideas and financial hazards, as well as their ability to apply this knowledge and their willingness and confidence in doing so (Garg and Singh, 2018). It also plays a role in building self-confidence, increasing participation and commitment, and reducing negative behaviors and risks (Cupak, Fessler, and Schneebaum, 2020) and (Hsu, Chen, Huang, and Lin, 2020). As a result, sustainable investment performance and profitable decision-making are influenced by investors' level of financial literacy as they are less likely to make illogical and irrational risk-taking and more likely to take sensible and high-quality decisions (Ahmad and Shah, 2020).

Behavioral finance involves understanding the discipline of finance by blending psychological concepts to

Understand the response and impact of investment decision making by investors. Psychological factors are divided into emotional aspects, which involve feelings that arise in response to situations, both positive and negative, and are related to one's intuition. While cognitive aspects are related to the ability to think rationally, including memory, analysis, processing, and grouping of information. However, sometimes the investor's rational thinking is limited by information processing, even the flow of information itself affects investor psychology in responding to the market and subjective decision making. Therefore, it is important to realize that every investor cannot escape from *behavioral finance* (Jensen and Jones, 2020) and (Ritika and Kishor, 2020). In other words, the actions of each stock investor reveal their mental framework for making investment decisions and their underlying emotional state. The character of an investor is shown in his investment choices, as shown by *behavioral finance*. This reflects the integration between psychology, emotions, and economics in everyday investor behavior in investment decision making, and completely eliminating them is impossible (Zahera and Bansal, 2018). In this case, even smart investors can still make mistakes because *behavioral finance* is inherently inherent in each individual. Factor *behavioral finance* Always present in every investor's decision making because to achieve the best solution by simplifying logic and managing time constraints and information flow. Therefore, behavior based on limited rationality is formed (Chidambaranathan and Guha, 2020).

This is also seen in the daily behavior of investors in Indonesia which can be observed through social media and the investment community. Some of these behaviors include following the recommendations of securities or "experts," following *rumors* of buying and selling stocks, being tempted by

profits reported by other investors, trying to remember events before buying stocks, feeling afraid because they are still learning so they ask for advice or show the results of analysis before buying and selling stocks. Thus, all capital market investors who invest in shares on the Indonesia Stock Exchange constitute the population studied, while capital market investors who invest in shares in DKI Jakarta are sampled. Because, according to data from the Indonesian Central Securities Depository (KSEI), as many as 13.17% or around 1,433,231 investors are located in DKI Jakarta.

This research has an important urgency because investment decision making is a crucial factor that affects the success of an investor. Therefore, it is important to understand the elements that play a role in the decision-making process. Elements that contribute to financial literacy are the topic of this study. Confidence, involvement, mitigation of unwanted behavior, and unnecessary risk aversion are all influenced by a person's level of financial literacy. Better and wiser investment choices can be achieved with increased financial literacy. Knowing how investor behavior is affected by financial literacy is essential when making investment choices. However, it is important to remember that any investment decision making will be influenced by the inherent behavior of the individual and influenced by psychological factors, both cognitively and emotionally. This can lead to inconsistencies or mismatches between the actions the investor wants and the actions taken. In addition, demographic characteristics and financial literacy can influence investor behavior, which in turn influences investment decisions. Therefore, the purpose of this study is to determine the impact of demographics and financial literacy on the application of behavioral finance to stock market options. Therefore, the research raised a topic entitled "**The Effect of Financial Literacy on Investment Decisions Mediated by *Behavioral Finance* (Empirical Study: On Capital Market Investors in DKI Jakarta)".**

Research Framework and Research Hypothesis

Based on the research background, objectives, previous research and literature review, the research model is presented in Figure 1.

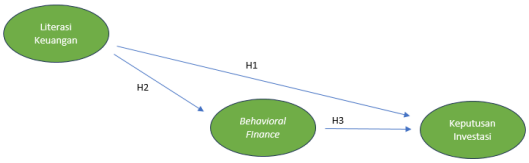

Figure 1 Research Framework

The Relationship Between Financial Literacy and Investment Decision Making

Cupak, Fessler, and Schneebaum (2020) Financial literacy is said to be one of the factors increasing a person's comfort level in owning high-risk assets. Soekarno and Pranoto (2020) agreed and advised against dealing with investors who are too careful. Where people often avoid investment. So as to increase participation by holding a collaborative program on *financial literacy* topics that are tailored to *lifestyle* as well as attitudes and motivations that are in accordance with the target generation. Garg and Singh (2018) show that investors are more likely to have strong emotional investments if they have a high level of financial knowledge, specifically financial behavior. This is in line with the idea put forward by Rahman and Gan (2020), namely one must have a strong understanding of all aspects of finance to mitigate negative investment behavior and maximize the chances of success. This is consistent and supported by the argument put forward by Ahmad and Shah (2020), which states that investors who have better information will be more likely to make good financial decisions that lead to long-term investment success.

H1: There is a positive influence of financial literacy on an investor's investment decision making in the stock market.

The relationship between financial literacy and *behavioral finance*

Rasool and Ullah (2020) argue that the higher the level of financial literacy owned by investors tends to reduce *behavioral bias*. This is in line with Ozen and Ersoy (2019) that financial *literacy* provides a positive dominant role such as investors who take courses or materials to increase *financial* knowledge tend to make more appropriate investments, prevent effectively or reduce the influence of *cognitive biases* so that decision making is more rational This is supported by Baker, Kumar. Goyal, and Gaur (2019) that *higher financial literacy* tends to avoid *representativeness* and *disposition effects* but increases the tendency of *mental accounting*. For the reason that investors who are *financially* educated will have a more complex portfolio and understand the purpose of investment through the diversity of their portfolios. This is in line with Adil, Singh, and Ansari (2021) that the higher the level of *financial literacy* tends to overconfidence and eliminate or reduce *the disposition effect* of both men and women in making investment decisions.

H2: There is a positive influence of financial literacy on *behavioral fiinance* in the stock market.

The Relationship between Behavioral Finance and Investment Decisions

Jensen and Jones (2020) say that investors overreact to unexpected

events. Thus causing panic and chaos through fluctuations in price movements which investors are motivated and respond to dramatically that spur irrational actions. Where causes *errors* in judgment and behavior that avoids the profitability of an investor. This is in line with Baker and Puttonen (2017) explaining that the occurrence of *behavioral biases* is caused by *behavior gaps*. Find places where investors deviate from recommended actions and learn how to close the resulting gap. This is in line with the findings of Chidambaranathan and Guha (2020) who found that investor judgments are always influenced by their own behavioral biases. Due to his success in reducing cognitive load (taking shortcuts), as well as his knowledge of the constraints of information management. Therefore, the behavior formed results from irrational choices. This is in line with Sharma and Kumar (2019) that investment decision making is indirectly affected emotionally in terms of intuition that results in *errors* or accumulation of *profits* or *losses* based on experience that hinders cognitive and rational thinking due to uncertainty and risk in the market.

H3: There is a positive influence *of behavioral finance* on an investor's investment decision making in the stock market.

RESEARCH METHODS

Research Design

Research design is the researcher's overarching strategy for answering research questions or solving existing problems, and includes everything from research question formulation to hypothesis generation to identification of operational implications to data collection planning, analysis. , and presentations. And finally concluded and given advice (Sekaran &; Bougie, 2016). Here's the design in this study

1. This type of research is hypothesis testing, which is testing carried out to determine accurately whether the null hypothesis is rejected and the alternative hypothesis supports (Sekaran &; Bougie, 2016, p. 301).
2. This type of research is a type of quantitative research that uses surveys. To explain or compare the knowledge, attitudes, and behavior of a population, researchers often conduct surveys (Sekaran &; Bougie, 2016, p. 97).
3. Hypothesis testing is causal, which means that the study looks for whether there is a relationship between variables (Sekaran &; Bougie, 2016, p. 97).
4. Fourth, this study has a cross-sectional time frame, meaning that it uses data obtained in one session, rather than collecting it over a period of, say, days, weeks, or months (Sekaran &; Bougie, 2016, p. 104).
5. The research analysis unit is investors in DKI Jakarta as respondents.
6. The research data sources needed consist of primary data sources. The primary data source is intended to be obtained from questionnaires.

7. There are three variables in this study, namely Financial Literacy, *Behavioral Finance* and Investment Decisions.

Population and Sample

Research Population

A population is a collection of people, activities, or items that researchers find interesting (Sekaran &; Bougie, 2016, p. 236). Population according to Sugiyono (2019) is the sum of the parts used to form a broad conclusion; It consists of objects and people that possess certain qualities and in relation to whom the researcher will conduct an investigation. Drawn. a certain object of investigation. Therefore, what is considered as the population in this study is all investors in the capital market in DKI Jakarta who invest in shares on the Indonesia Stock Exchange which reached 1,433,231 investors as of April 2023 based on investor demographics recorded by the Indonesia *Central Securities Depository* (KSEI) April 2023 as outlined in figure 2 as follows.

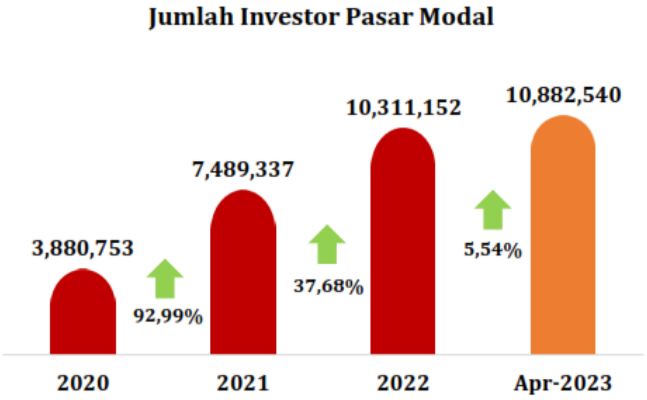

Figure 2. Number of Capital Market Investors

Research Sample

The sample is a portion of the population (Sekaran &; Bougie, 2016, p. 237). The sample selected for investigation or survey is expected to represent the intended population and researchers can draw a general conclusion on the population. Sampling needs to be done because researchers lack time in taking surveys from the entire population of respondents in DKI Jakarta. Researchers use non-probability sampling by using purposive sampling strategies to determine sample size. Purposive sampling, as defined by Sekaran and Bougie (2016), "means selecting samples that are believed to be capable of providing information and data that are consistent with the object of study and believed to be consistent with the criteria set by the researcher." (p. 248). Therefore, capital market participants who regularly purchase shares in DKI Jakarta were selected as the research sample population. Figure 3.2 from the Indonesian Central Securities Depository (KSEI) report explains why DKI Jakarta was chosen as

the study location: the city is home to 13.17% of Indonesia's investor population and has 82.43% of the country's total capital market assets.

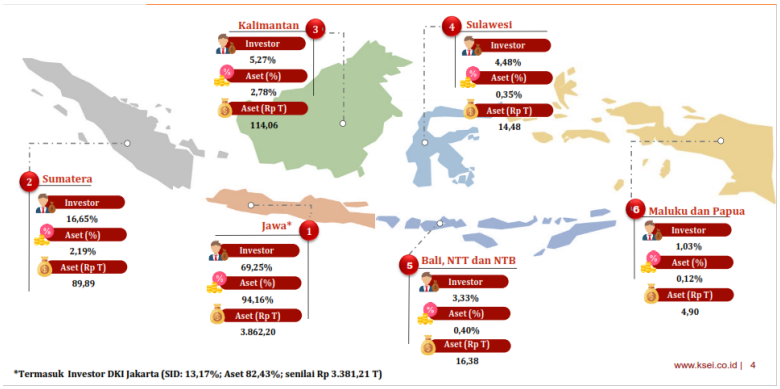

Figure 3 Distribution of Stock Market Investors in Indonesia
Source: *Indonesia Central Securities Depository* (KSEI) April 2023

Analysis Techniques (descriptive and inferential)

Data Analysis Methods

Structural equiation model (SEM) as a data analysis method will be used in this study with the AMOS 24 program as a statistical tool in calculating quantitative data from questionnaires and after that it will be processed into statistical data. SEM is based on a collection of statistical methods that allow testing rather complex correlations simultaneously. Rambut et al. (2018, p. 606) define structural equation modeling (SEM) as a multivariate method that combines parts of factor analysis and multiple regression to allow researchers to simultaneously explain the interdependent relationships between assessed variables.

Descriptive Statistics

According to Sugiyono (2021, p. 206) descriptive statistics is a type of statistical analysis that does not draw conclusions or conclusions from the examined data beyond what can be obtained from the description or illustration of the data itself. Tables, graphs, pie charts, pictograms, mode calculations, medians, decile mean, percentiles, average and standard deviation calculations, and data presentation are examples of calculation types that fall into this category. descriptive statistics (Sugiyono, 2021, p. 207). In this study, the descriptive used aims to explain the average opinion of respondents for variables in this study, namely Financial Literacy, *behavioral finance,* and Investment Decisions.

Validity Test and Reliability Test

In ensuring the validity of this study, researchers will conduct two types of tests that are common in all studies, namely validity tests and reliability tests.

Validity Test

Testing the validity of the questions/statements in the questionnaire needs to be done because researchers want to know whether the

questions/statements are true and appropriate in measuring the concepts studied in this study. The measurement items used will be collected from questionnaires distributed to respondents and connected to the theory that has been described. The validity test will know that the measurement item is a qualified measuring tool and reflects what has been described in theoretical concepts. In this study, testing the validity of the instrument used the *Confirmatory Factor Analysis* (CFA) test. Validity tests are carried out to ensure the level of validity of the construct in knowing whether the indicators used can explain the existing construct. Validity will be tested by looking at the value of the loading factor, *where the reference value of* the loading factor estimate *must be above 0.50 (Hair et al., 2018, p. 676).*

Reliability Test

Reliability tests were conducted in this study to determine the reliability of each variable used with *Cronbach's Alpha measurements*. According to Hair et al. (2018, p. 761) *Cronbach's alpha* is a measure of internal reliability consistency that ranges from 0 to 1, and assumes every loading indicator is the same. According to Hair et al., *Cronbach's alpha* value should be more than 0.6 so that each indicator can be said to be quite reliable.

RESULTS AND DISCUSSION

Test Instruments: Validity and Reliability

Validity Test

In this study, testing the validity of the research instrument used the *Confirmatory Factor Analysis* (CFA) test. This test is done to determine the validity of the construct or to find out whether each indicator can explain the existing construct. Indicators used as a measure of the validity of research variables are indicators that have a *loading factor* or *estimate* > 0.5 while indicators below < 0.5 are eliminated from the model. Figure 4.1 shows the CFA assay for exogenous (independent) and endogenous (dependent) variables using the AMOS program.

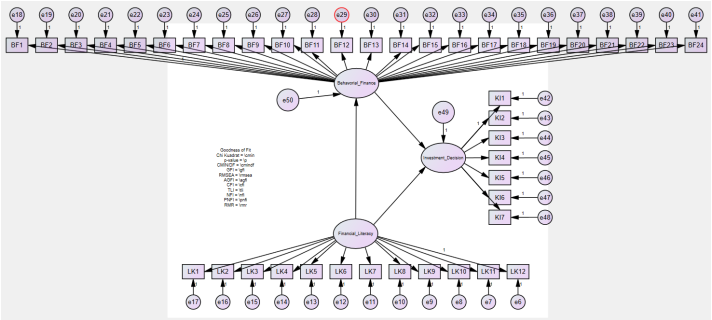

Figure 4 Complete SEM Model

Source: Data Processing Results (2023)

Financial Literacy CFA Test

In the financial literacy variable, there are 12 indicators used to measure, each indicator can be seen the value of the loading factor to measure whether or not the indicator is valid.

Table 1. CFA Test Results Financial Literacy Variables

Indicators	Loading factor	Information
LK12	0.732	Valid
LK11	0.787	Valid
LK10	0.735	Valid
LK9	0.789	Valid
LK8	0.803	Valid
LK7	0.811	Valid
LK6	0.780	Valid
LK5	0.783	Valid
LK4	0.805	Valid
LK3	0.848	Valid
LK2	0.773	Valid
LK1	0.809	Valid

Source : author's processed data (2023)

Based on table 1 it can be obtained that for all variables obtained valid results, this can be seen from the value of the *loading factor* for the twelve indicators, which is greater than 0.5.

CFA *Behavioral Finance Test*

In the *Behavioral Finance* variable , there are 24 indicators used to measure, each indicator can be seen the loading *factor value* to measure whether the indicator is valid or not.

Table 2. *Behavorial Finance Variable CFA Test Results*

Indicators	Loading factor	Information
BF1	0,795	Valid
BF2	0,802	Valid
BF3	0,883	Valid
BF4	0,855	Valid
BF5	0,838	Valid
BF6	0,82	Valid
BF7	0,791	Valid
BF8	0,833	Valid
BF9	0,783	Valid
BF10	0,83	Valid
BF11	0,753	Valid

BF12	0,8	Valid
BF13	0,83	Valid
BF14	0,857	Valid
BF15	0,852	Valid
BF16	0,854	Valid
BF17	0,881	Valid
BF18	0,775	Valid
BF19	0,796	Valid
BF20	0,817	Valid
BF21	0,857	Valid
BF22	0,841	Valid
BF23	0,819	Valid
BF24	0,847	Valid

Source: author's processed data (2023)

Based on table 2 it can be obtained that for all indicators obtained valid results, this can be seen from the *loading factor value* for the 24 indicators, which is greater than 0.5.

Test CFA Investment Decisions

In the Investment Decision variable, there are 7 indicators used to measure, each indicator can be seen the *loading factor* value to measure whether or not the indicator is valid.

Table 3. CFA Variable Investment Decision Test Results

Indicators	Loading factor	Information
KI1	0,953	Valid
KI2	0,894	Valid
KI3	0,935	Valid
KI4	0,913	Valid
KI5	0,877	Valid
KI6	0,968	Valid
KI7	0,882	Valid

Source : data processed by the author (2023)

Based on table 3, it can be obtained that for all indicators obtained valid results, this can be seen from the *loading factor value* for the seven indicators, which is greater than 0.5.

Purpose of the test *Confirmatory Factor Analysis* (CFA) is to confirm to test a model, that is, a measurement model whose formulation is derived from theory. CFA can be said to have two focus studies, namely: (1) whether the indicators are conceptualized *Unidimensional Valid*, and (2) what indicators predominantly form the construct under study. According to Ghozali (2017) reference value *loading*

factor estimate Ideally it should be above 0.60 but 0.50 – 0.60 is still acceptable, so indicators above 0.50 will be maintained. CFA test results are shown in tables 2 through 5 showing all values *Loading Factor* Of each indicator > 0.5 and this means that all indicators in this study are valid for measuring the variable.

Reliability Test

In this study, the reliability test of each variable was measured using *Cronbach*'s *Alpha*. *Cronbach's Alpha* is a reliability measure that has values ranging from zero to one and preferably more than 0.6 so that each indicator can be said to be reliable enough (Hair, 2018). The results of reliability testing for each variable of this study can be seen in Table 4.9 where 3 (3) research variables have *Cronbach's Alpha* value between 0.915 to 0.982 which means that all variables have reliable reliability as research instruments.

Table 4. Reliability Test Results

No	Variable	*Cronbach's Alpha*	Decision
1	Financial Literacy	0,955	Reliable
2	*Behavioral Finance*	0,982	Reliable
3	Investment Decisions	0,974	Reliable

Source: Data Processing Results (2023)

Model Goodness of Fit *(GOF)* Test

In this study, *Goodness of Fit* (GOF) testing was used as a reference to whether the research model was acceptable. This test is carried out because the data analysis method used is *the Structural Equation Model* (SEM) using the AMOS program. SEM is a multivariate technique that combines aspects of multiple regression and factor analysis to estimate a series of simultaneous dependent relationships (Hair, 2018).

Table 5. *Goodness of Fit Test Results*

Goodness of Fit	Cut off value	Analysis Results amos	Model Evaluation
Chi Square	< 139,921	1249,31	Marginal Fit
Degrees of freedom (DOF)	-	. 742	Good Fit
Probability	≥ 0.05	.000	Good Fit
CMIN/DF	< 2	1,684	Good Fit
GFI	≥ 0.90	0,808	Marginal Fit

Goodness of Fit	Cut off value	Analysis Results amos	Model Evaluation
RMSEA	≤ 0.08	0,055	Good Fit
RMR	≤ 0.05	0,026	Good Fit
AGFI	≥ 0.90	0,755	Marginal Fit
TLI	≥ 0.90	0,953	Good Fit
NFI	≥ 0.90	0,912	Good Fit
CFI	≥ 0.90	0,962	Good Fit
IFI	≥ 0.90	0,962	Good Fit
PGFI	≥ 0.50	0,634	Good Fit
PNFI	≥ 0.50	0,749	Good Fit
PCFI	≥ 0.50	0,790	Good Fit

Source: Data Processing Results (2023)

Based on the research model in table 4.10, the results of the *Goodness of Fit* assessment are obtained, where this research model has twelve (12) fit model evaluations and three (3) marginal ones, so that it can be concluded that the research model is fit and can be continued for the hypothesis analysis process.

Hypothesis Testing Results

Hypothesis testing (influence between variables) directly

Hypothesis testing is done after the research model can be considered fit. While the basis for decision making in hypothesis testing is as follows:

- If the P (Probability) value > 0.05 or CR < 1.96, then Ha is rejected and H0 is accepted (no effect)
- If the P (Probability) value ≤ 0.05 and CR ≥ 1.96 then Ha is accepted and H0 is rejected (there is an effect)

Hypothesis testing is carried out by looking at the results of *standardized regression weight*. Table 4 and table 5 describe the results of structural model estimation as well as the decisions of each hypothesis:

Table 6. Results of the Direct Influence Hypothesis

Hypothesis	Independent Variables	Dependent Variables	Path Coefficient			
			Std'ize (Estimate)	CR	*P-value*	Information
H1	Financial Literacy	Investment Decisions	0,243	3,732	0,000	Accepted
H2	Financial Literacy	*Behavorial Finance*	0,29	4,114	0.001	Accepted
H3	*Behavorial Finance*	Investment Decisions	0,335	3,732	0,000	Accepted

Source: Data Processing Results (2023)

From table 6 of the model estimation results, the P value is compared with a critical value of 0.05. And the C.R value from the model estimation results will be compared with a critical value of 1.96. An exogenous variable can be declared to have an effect on an endogenous variable if it has a P value below 0.05 and the research hypothesis is accepted, while if the P value is above 0.05 then the influence of the exogenous variable on endogenous is declared to have no effect and the hypothesis is rejected.

A critical comparison using a C.R value exceeding 1.96 is expressed with an exogenous variable having a significant effect on the endogenous variable and the hypothesis is declared accepted, while the effect of the exogenous variable on endogenous is not significant and the hypothesis is rejected if it obtains a C.R value below 1.96.

The following explanation of testing all hypotheses refers to table 6:

H1: Financial Literacy has a positive and significant effect on Investment Decisions

Based on the research model that has been developed in table 6, an estimated parameter value of 0.243 is obtained. The results of the Financial Literacy relationship test on Investment Decisions showed a probability value (P) of 0.001 and a C.R value of 3.732. Based on these results, the fifth hypothesis is accepted, so that it can be interpreted that there is a significant and positive influence between the influence of Financial Literacy on Investment Decisions. Given that the coefficient shows positive results, it means that the relationship between the two variables is positive, meaning that the higher respondents perceive Financial Literacy, the higher the Investment Decision.

H2: Financial Literacy has a positive and significant effect on *Behavioral Finance*

Based on the research model that has been developed in table 4.11, an estimate parameter value of 0.29 is obtained. The results of the Financial Literacy relationship test on *Behavioral Finance* showed a probability value (P) = 0.001 and a C.R value of 4.114. Based on these results, the second hypothesis is accepted, so that it can be interpreted that there is a significant and positive relationship between the influence of Financial Literacy on *Behavioral Finance*. Given that the coefficient shows positive results, it means that the relationship between the two variables is positive, meaning that the higher respondents perceive Financial Literacy, the higher *the Behavioral Finance*.

H3: *Behavioral Finance* has a positive and significant effect on Investment Decisions

Based on the research model that has been developed in table 4.11, an estimate parameter value of 0.335 is obtained. The results of the Behavioral *Finance relationship* test on Investment

Decisions show a probability value (P) = 0.000 and a C.R value of 3.732. Based on these results, the third hypothesis is accepted, so that it can be interpreted that there is a significant relationship between the influence of *Behavioral Finance* on Investment Decisions. Given that the coefficient shows positive results, it means that the relationship between the two variables is positive, meaning that the higher respondents perceive *Behavioral Finance*, the higher the Investment Decision.

Direct, Indirect and Total Influence

The analysis was conducted to determine the magnitude of the coefficient of direct, indirect influence, and total influence of all research variables.

Table 7. Results of the Indirect Influence Hypothesis

Independent Variables	Mediation Variables	Dependent Variables	Path Coefficient			
			Std'ize (Estimate)	CR	*P-value*	Information
Financial Literacy	*Behavorial Finance*	Investment Decisions	0,097	2.628	0.008	Accepted

Source: Data Processing Results (2023)

Direct and Indirect Influence of Financial Literacy on Investment Decisions through *Behavioral Finance*

Based on the research model that has been developed in table 7, an estimate parameter value of 0.097 is obtained. The results of the Financial Literacy relationship test on Investment Decisions mediated by *Behavioral Finance* showed a significance value (P) = 0.008 and a T-Statitics value of 2.628. Based on these results, the seventh hypothesis is accepted, so it can be interpreted that *Behavioral Finance is* able to didiasi the influence of Financial Literacy on Investment Decisions.

Total Direct and Indirect Influence

Based on tables 7 and 8, the total influence of Demographic Factors on Direct and Indirect Investment Decisions (Behavioral Finance mediation) is 0.302. While the total influence of Financial Literacy on Investment Decisions directly and indirectly (mediation *Behavioral Finance*) is 0.264. So it can be concluded that the largest total influence (direct and indirect) is the Demographic Factor to Investment Decisions, then followed by Financial Literacy to Investment Decisions.

Table 8. Comparison of Direct and Indirect Influences

Independent Variables	Mediation Variables	Dependent Variables	Estimate		
			Immediately	Indirect	Total
Financial Literacy	*Behavioral Finance*	Investment Decisions	0,243	0.097	0,340

Source: Data Processing Results (2023)

DISCUSSION

The Relationship of Financial Literacy Influence on Investment Decision Making

Financial literacy has a positive and significant effect on investment decisions, so the 2nd hypothesis is accepted. The higher / positive financial literacy, the higher / more positive investment decisions.

Cupak, Fessler, and Schneebaum (2020) said that one of the elements that supports to foster self-confidence related to ownership of risky assets is through *financial literacy* owned by individuals who show participation and courage in taking risks. Soekarno and Pranoto (2020) said that *financial literacy* is able to avoid investors' attitudes towards *high risk-averse*. Where tends not to participate in the stock market. So as to increase participation by holding a collaborative program on the topic of *financial literacy* which is aligned with the millennial lifestyle as an age measure that also dominates demographics in Indonesia. The importance of financial literacy was also conveyed by Ahmad and Shah (2020) on the grounds that financially educated investors will avoid excessive or illogical risk-taking; as well as financial knowledge that encourages more rational decisions and the quality of positive decisions that lead to sustainable investment performance. So that the level of investor decisions based on financial ability *and experience is compared depending on heuristic or investor sentiment itself which has a high error rate with the support of participation from* financial literacy.

Thus, financial literacy allows strengthening the ability of investors to improve the results of their investment decisions. So the results of this study are in line with previous research which states that financial literacy positively and significantly affects investment decisions in capital market investors in DKI Jakarta.

The Relationship of the Effect of Financial Literacy on *Behavioral Finance*

Financial literacy has a positive and significant effect on *behavioral finiance*, so the 2nd hypothesis is accepted. The higher / positive financial literacy, the higher / positive *behavioral finiance*.

Hsu, Chen, Huang. and Lin (2020) said that financial literacy support has an overall impact on reducing behavior (*bias*) and risk for both men and women. As Olch Adil, Singh, and Ansari (2021) said, the higher the level of *financial literacy,* they tend to overconfidence and eliminate or reduce the *disposition effect* of both men and women in making investment decisions. This is supported and in line with Rasool and Ullah (2020) who argue that the higher the level of *financial literacy* owned by investors tends to reduce behavior. Where the level of financial *literacy,* especially *financial behavior*, is getting higher, investors tend to have a high level of participation or commitment as said by Garg and Singh (2018). This is in line with Chidambaranathan and Guha (2020) said that the level of financial *literacy* describes a person's financial ability to act by combining internal (cultural and socio-economic) and external (financial teaching) situations. So that programs, materials, and training are also given to overcome behavior (*bias*) and have *financial capability* which leads to better investment performance.

The tendency of *overconfidence* will affect performance by damaging the quality of irrational decision making or low *returns* or having poor investment performance. Because decision making is based on the level of confidence related to the knowledge, abilities, and *financial* skills possessed by investors as said by Ahmad and Shah (2020). Therefore, it is necessary to include *financial literacy* support that will reduce anchoring behavior, *overconfidence*, and other behaviors. At the same time reduce risk and understand investors in making investment decisions. Conversely, lack of *financial literacy* will cause *underconfidence*, tend to have a negative impact or worsen the quality of investment decision making, both short-term and long-term, in finding alternatives by ignoring several sources of information that cause errors in decision making. Because investors are not confident or just trying to have limited financial capabilities, which causes trading with low volume and participation and does not even intend to invest in any term as said by Ahmad (2020).

The Relationship of *Behavioral Finance* Influence on Investment Decisions

Behavioral Finance has a positive and significant effect on investment decisions, so the 5th hypothesis is accepted. The higher / positive behavioral *finance*, the higher / more positive investment decisions.

Emotional bias Especially *loose aversion* and *regret aversion* tends to occur in general or almost all investors. Where Baker and Puttonen (2017) argue *Emotional Bias* It is a cognitive deviation in investment decision making based on emotional factors and tends to be more difficult to correct due to the emotional psyche that forms personal sentiments

embedded in individuals. Where added by Baker, Nofsinger, and Purronen (2020) said that emotional factors are very complex because they are not based on individual characteristics but the influence of investors or people around, regret, feeling problems (fear and greed or pride and self-image), social pressures and needs that affect decision making. In other words, based on individual thought patterns spontaneously or stimuli through the impulse of consciousness or in other words illogical reasoning generated by instinct or intuition emotionally as explained by Jensen and Jones (2020). This is in line with Sharma and Kumar (2019) that investment decision making is indirectly affected emotionally in terms of intuition which results in errors or accumulation of profits or losses based on vans experience of cognitive and rational thinking due to uncertainty and risk in the market.

CONCLUSION

The results showed that financial literacy is a supporting factor for investors in reducing behavior, avoiding risk and emotional, illustrating the commitment and level of investor participation as well as decision making that tends to be rational and changes investor behavior to be more positive, which will produce quality investors. Therefore, there is a positive influence of financial literacy on behavioral finance in the stock market.

In addition, financial literacy describes and shows a person's financial management ability. However, the existence of behavioral finance will hinder or reduce the level of financial literacy owned by investors. So that programs, materials, and training are also given in overcoming biased behavior in order to have financial capability which leads to better investment performance. Therefore, there is a positive influence of financial literacy on an investor's investment decision making in the stock market.

The existence of biased behavior managed by planning, financial literacy support and demographic factors owned by individual investors will be an opportunity for momentum in the market. So investors must understand the psychological biases inherent in themselves during decision making that help maximize returns, investment and portfolio performance, avoid risk, and form trading strategies. At the same time, there is an inseparable element of psychology by involving emotional and cognitive that creates an emotional atmosphere and motivates investors in the form of biased behavior. Therefore, there is a positive influence of behavioral finance on an investor's investment in the stock market.

This study helps show the relationship between variables and describes the mistakes that investors tend to make based on psychology that causes errors in behavior in making investment decisions with demographic factors and the level of financial literacy as influencing variables.

REFERENCE

Adil, M., Singh, Y., & Ansari, M. S. (2021). How financial literacy moderate the association between behaviour biases and investment decision? *Asian Journal of Accounting*, 17-30.

Ahmad, M. (2021). Does underconfidence matter in short-term and long-term investment decisions? Evidence from an emerging market. *Management Decision*, 692-709.

Ahmad, M., & Shah, S. Z. (2020). Overconfidence heuristic-driven bias in investment decision making and performance: Mediating effects of risk perception and moderating effects of financial literacy. *Journal of Economics and Administrative Science*, 60-90.

Baker, H. K., & Puttonen, V. (2017). *Investment Traps Exposed*. Bingley: Emerald Publishing Limited.

Baker, H. K., Kumar, S., Goyal, N., & Gaur, V. (2019). How financial literacy and demographic variables relate to behavioral biases. *Managerial Finance*, 124-146.

Baker, H. K., Nofsinger, J. R., & Spieler, A. C. (2020). *The Savvy Investor Guide to Building Wealth Through Traditional Investment*. United Kingdom: Emerald Publishing Limited.

Basyaib, F. (2006). *Teori Pembuatan Keputusan*. Jakarta: Grassindo.

Beatrice, V., Murhadi, W. R., & Herlambang, A. (2021). The Effect of Demographic Factors on Behavioral Biases . *Jurnal Siasat Bisnis*, 17-29.

Bougie, R., & Sekaran, U. (2020). *Research Methods for Business: A Skill-Building Approach*. United States: Wiley.

Chaffin, C. (2018). *Client Psychology*. New Jersey: Wiley.

Chaudary, S. (2019). Does salince matter in investment decision? Differences between individual and Professional Investor. *Kybernetes*, 1894-1912.

Chidambaranathan, M., & Guha, S. (2020). Can behavioral biases improve the financial capability of microfinance clients in the tribal states of India. *Wiley Onlin Library*.

Cupak, A., Fessler, P., & Schneebaum, A. (2020). Gender Differences in Risky Asset Behavior: The Importance of Self Confidence and Financial Literacy. *Finance Research Letter*.

Garg, N., & Singh, S. (2018). Financial Literacy Among Youth. *International Journal of Social Economics*, 173-186.

Hansson, S. O. (2005). *Decision Theory: A brief introduction*. Stockholm: Department of Philosophy and

the History of TechnologyRoyal Institute of Technology (KTH).

Hsu, Y. L., Chen, H. L., Huang, P. K., & Lin, W. Y. (2020). Does Financial Literacy Mitigate Gender Differences in Investment Behavioral Bias. *Finance Research Letter*.

Indonesia Central Securities Depository Team, (. (2023, May 23). *Statistik Pasar Modal Indonesia April 2023*. Retrieved from Kustodian Sentral Efek Indonesia (KSEI): https://www.ksei.co.id/publications/demografi_investor

Isidore, R., & Christie, P. (2019). The relationship between the income and behavioral biases. *Journal of Economics, Finance and Administrative Science*, 127-144.

Jensen, G. R., & Jones, C. P. (2020). *Investment Analysis and Management Fourteen Edition*. United States: Wiley.

Kahneman, D. (2011). *Thinking Fast and Slow*. New York: Farrar, Straus and Giroux.

Kartini, & Nugraha, N. F. (2015). Pengaruh Illusion of Control, Overconfidence, dan Emotion Terhadap Pengambilan Keputusan Investasi Pada Investor di Yogyakarta. *Jurnal Inovasi dan Kewirausahaan*, 115-123.

Metawa, N., Hassan, M. K., Metawa, S., & Safa, M. F. (2019). Impact of Behavioral factors on investors financial decision: case of the Egyptian stock market. *International journal of Islamic and Middle Eastern finance and management*, 1753-8394.

Özen, E., & Ersoy, G. (2019). The Impact of Financial Literacy on Cognitive Biases of Individual Investors. *Contemporary Issues in Behavioral Finance*, 77-95.

Rahman, M., & Gan, S. S. (2020). Generation Y Investment Decision: An Analysis Using Behavioural Factors. *Managerial Finance*, 1023-1041.

Rasool , N., & Ullah, S. (2020). Financial Literacy and Behavioural Biases of Individual Investor: Empirical Evidence of Pakistan Stock Exchange. *Journal of Economic Finance*, 261-278.

Sarkar, A. K., & Sahu, T. N. (2018). *Investment Behaviour: Towards an Individual-Centred Financial Policy in Developing Economies*. United Kingdom: Emerald Group Publishing.

Shah, M., & Shah, S. A. (2020). Overconfidence Heuristic-Driven Bias in Investment Decision-Making and Performance: Mediating Effect of Risk Perception and Moderating Effect of Financial Literacy. *Journal of Economic and Administrative Science*.

Sugiyono. (2021). *Metode Penelitian Kuantitatif Kualitatif dan R&D*. Bandung: Alfabeta.

Zahera, S. A., & Bansal, R. (2018). Do Investors Exhibit Behavioral Biases in Investment Decision Making? A Systematic Review. *Qualitative Research in Financial Markets*, 210-251.