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Behavioral Finance in Sharia Investment: An Empirical Study on Indonesian Millennials

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ABSTRACT
The increasing participation of millennials in Indonesia's Islamic financial markets underscores the importance of understanding the behavioral factors that influence their investment decisions. This study aims to analyze the impact of behavioral biases specifically representativeness, overconfidence, and herding on Sharia-compliant investment behavior among millennial investors. Despite the growing relevance of behavioral finance, empirical research on cognitive biases in Islamic investments remains limited, particularly in emerging economies. This study fills that gap by employing Structural Equation Modeling–Partial Least Squares (SEM-PLS) to examine data collected from 300 millennial users of the Bibit Sharia investment platform in West Java. The findings reveal that overconfidence ($\beta = 0.235$, $p < 0.05$) and herding ($\beta = 0.198$, $p < 0.05$) significantly influence investment decisions, whereas representativeness bias has no significant effect ($p > 0.05$). These results highlight the critical role of self-confidence and social influence in shaping millennial Sharia investment behavior. The study recommends enhancing targeted financial literacy programs that address behavioral biases and promote ethical, independent decision-making among young Muslim investors. Future research is encouraged to include broader regional samples and explore additional behavioral factors within Islamic financial contexts.

1. INTRODUCTION

Over the past decade, there has been a remarkable rise in investment interest across Indonesia due to a stable economic environment and proactive government policies to encourage public involvement in capital markets. This growth in investment activity on the Indonesia Stock Exchange has played an important role in corporate efficiency and overall economic growth (Annual Report, 2023). "Yuk Nabung Saham" program launched by IDX in 2015 encouraged incremental investing by individuals with low amounts of capital, which made stock ownership

accessible to more people and established a culture of frequent investing (Annual Report, 2015). The campaign by 2023 had been successful in playing an effective part in demonstrating a strong influence of new investors; namely millennials, who showed a strong inclination towards ethical and sharia-compliant investment options (OJK, 2022). This move follows the international trends where the younger generations are tops with green and socially responsible investment strategies (Fama & French, 2015). Demand for sharia-compliant investments in the millennials is thus a significant change in investor behavior that aligns with Indonesia's religious and ethical values (Shah et al., 2023). Nevertheless, research has identified that although millennials are positive towards investment, they may lack advanced financial literacy, hence leading to inefficient investment decisions (Rahadi et al., 2021). Research on behavioral finance has identified that millennials are susceptible to cognitive biases such as overconfidence, representativeness, and herding that influence decision-making (Waweru et al., 2008). The COVID-19 pandemic; for example, exposed a herding tendency among investors, where they followed market trends without thorough analysis (Luong & Ha, 2011).

More recent investment decision literature has been primarily concerned with the cognitive biases that affect overall investment behavior, such as overconfidence, representativeness, and herding (Elwani et al., 2016). However, there is hardly any research directly focusing on these prejudices in the case of Sharia-compliant investments where religious as well as ethical considerations are highly significant (Leuwol et al., 2024). Apart from that, most of the studies did not offer any understanding of how precisely such biases occur differently among millennial investors compared to other groups of people, particularly in regions such as West Java with distinct cultural and religious backgrounds. This insufficient understanding of how cognitive biases work in conjunction with Sharia principles in investment decision-making suggests the need for a theoretical extension that unites behavioral finance and cultural theories. This leads to higher trading volume and more streamlined company operations. In the meantime, based on Kustodian Sentral Efek Indonesia, statistics indicate that the number of mutual fund investors who use traditional mutual funds grows by 40.41 percent to 11,416,711 by December 2023 from 9,604,269 as of December 2022, with 23.58 percent of these investors falling within the age group of 31-40 years (KSEI, 2023).

Demographic information from Single Investor Identification (SID) below; shows a consistent yearly growth in the number of traditional mutual fund investors, with a notably

significant increase seen from 2020 to 2023, post-Covid-19 pandemic. But whereas traditional mutual fund investors have increased significantly, Sharia mutual fund instruments have followed a mixed growth trend between 2018 and the end of 2023. Sharia mutual fund investment in 2022 declined by 12.92 percent. The NAV of Sharia mutual funds also declined, from IDR 74.37 trillion in 2020 to IDR 44 trillion at the end of 2021 and continued in 2022, with the NAV at IDR 40.61 trillion, then continued to increase and at the end of December 2023 was IDR 42.78 trillion (OJK, 2023).

The existing data suggests that the participation rates in Sharia-compliant investment products are quite lower than in traditional financial instruments, which becomes an important area of inquiry for researchers to study the drivers and motives behind investor behavior in selecting Sharia mutual funds (Khababa, 2024). The distinctive and diverse behavioral attributes of investors provide certain patterns of response to market conditions in the Sharia stock market, which affects their decision-making.

	2021	2022	Nov-23	Dec-23
Capital Market	7,489,337	10,311,152	12,027,686	12,168,061
Mutual Funds	6,840,234	9,604,269	11,281,699	11,416,711
shares and other securities	3,451,513	4,439,933	5,175,501	5,255,571

Figure 1. Number of Investors Based on 2023 KSEI Data

Source: KSEI data, 2024

This research adds a further level in being behavioral finance-based, as it explores biases such as overconfidence, representativeness, and herding, which are distinct from other research and put into the geographical setting of West Java. Acceleration of digital innovations in Sharia investments following COVID-19, as well as the rise of financial technology, has facilitated investors, particularly millennials, to open security accounts online (Rahadi et al., 2021). One of the best examples of the effective application of online Sharia mutual fund investments in Indonesia is the Bibit App, which is operated by PT. Bibit Tumbuh Bersama (Ichsan & Fuadi, 2024). Millennials, born between the 1980s and the early 2000s, are more technologically adoptive than other generations because they have been exposed to changing technology during their developmental years (Kementerian Perempuan & BPS, 2018). Although this generation has the best interest in

investing, they normally apply more aggressive strategies. This aggressiveness is risky as they are looking for high returns and must be prepared for potential monetary loss (Paramita et al., 2018). Moreover, millennials typically have low investment awareness, at times thinking that they are young and do not need to worry about long-term monetary planning like investments. A large majority of millennials lack proper resources to utilize to obtain essential assets for backing business propositions and are excessively self-assured regarding money and ability without making thorough analysis of pertinent risks (Nadhila et al., 2024). Thus, thorough understanding of the investment decision-making process should be applied towards the encouragement of rational and informational action.

The Indonesian millennial investors are diversified, with 11,379,502 domestic capital market investors as of July 2023, according to the Indonesia Stock Exchange. Java Island accommodates most of the investors, as indicated by Kustodian Sentral Efek Indonesia data, totaling 68.99 percent, or 2,513,862, as of June 2023 (KSEI, 2023). West Java possesses the second-highest ratio of investors at 68.56 percent of Indonesian provinces. Specifically, 129,067 West Java investors who are Single Investor Identification (SID) carry investment decisions to approximately 0.55 percent of province's 39 million individuals (KSEI, 2023). Two key assumptions regulate investment decision-making, such as rational choices and predictions-based irrational choices. Waweru et al. recognizes psychological aspects that affect such decisions as heuristic theory, prospect theory, market forces, and herding (Waweru et al., 2008). Heuristics and herding are among the methods that the heuristic method and herding behaviors that impacted the millennials during COVID-19 when the price dropped. The investors who utilize both cognitive and intuitive judgment usually overlook their risk levels. Financial market herding behavior is copying the investment choices of others (Luong & Ha, 2011), fueled by drivers that support imitating collective choices (Gozalie & Anastasia, 2015).

The current research fills the gap by connecting behavioral finance theories with Sharia-compliant investment behaviors of millennials in a particular geographic setting. It goes beyond general observations by dissecting the influence of overconfidence, representativeness, and herding biases among the millennial West Java population; a province which confers distinct socio-cultural as well as religious investment motive intentions. The study also incorporates the impact of digital transformation and fintech innovations post-COVID-19, which have turned the investment world into one where younger investors can access it easily. The paper adds fresh

thinking to the process by which online ease of accessibility affects the interactions between behavioral bias and shapes investment choices within Sharia-compliant financial instruments, so adding depth never before tested by mainstream scholarship.

2. LITERATURE REVIEW

Representativeness bias is an investment decision that is made on some assumptions which are created by the investor. It can have the ability to create wrong and irrational decisions (Ramdani, 2018). Representativeness biased investors consider the past performance of a share before investing. This indicates that representativeness bias can influence the investment decision of an investor, as confirmed by research conducted by Budiman & Ervina (Budiman & Ervina, 2020), Subash (Subash, 2012), and Putri & Halmawati (Putri & Halmawati, 2020) and revealing that representativeness bias has significant impacts on investment decisions.

Overconfidence bias refers to excessive confidence of investors in relation to their abilities and knowledge (Pompian, 2012). Overconfidence investment decisions can lead to irrational investment decisions (Novianggie & Asandimitra, 2019). Research by Madaan & Singh states that it is reported overconfidence bias has a significant contribution towards investment decision-making (Madaan & Singh, 2019). On the other hand, herding effect is a type of cognitive bias in copying the judgment of other investors in making an investment decision that initially acts rationally and starts acting irrationally (Khalid et al., 2018). Herding effect is triggered due to the absence of confidence regarding personal experience and capabilities. Investors respond quickly to other investors' judgment regarding the decision of the investment option (Ramdani, 2018). This is attested by studies (Madaan & Singh, 2019) and (Mahmood et al., 2020), which show that the herding effect significantly influences investment decisions.

Behavioral finance is a field that studies the psychological and cognitive influence on the financial decision-making process that can lead to investment error (Nofsinger, 2016). Investors are aware that psychology has a role in influencing their decisions. There are three behavioral finance assumptions in behavioral finance that reflect the psychological aspects of finance (Adesi et al., 2017): (1) the assumption that financial agents consistently make mistakes in their decisions, known as rules of thumb; (2) the assumption that case consideration involves the perception of financial agents toward risk and return; (3) the assumption that there is pervasive and pervasive price bias, resulting in the formation of inefficient markets. Behavioral finance is valuable to market

participants and practitioners since it reduces repeated mistakes and increases sensitivity or reminds an individual of mistakes in order to prevent their recurrence (Adesi et al., 2017).

In a Rahadi and Dewi study, mutual funds are investment products that act as a vehicle for funders with financial objectives in the process of gathering savings before investing in capital market products (Rahadi et al., 2021), including securities and bonds. On the other hand, the Sharia-compliant app on the Bibit platform is Indonesia's leading mutual fund app, and therefore "PT. Bibit Tumbuh Bersama" is empowered to issue it. Bibit users are spread across various locations in Indonesia, up to 518 cities and provinces, and over 90 percent of them are under the age of 35 (Lubis et al., 2022).

Heuristic is an operating rule that makes decision-making to invest when uncertain and complicated simpler (Ratnadi et al., 2020). In heuristic, a decision can be faster and better if it focuses on the most important information and ignores low-quality information. But if heuristic is misused, it can generate decision-making bias. Lingesiya & Kengatharan presume that there are a number of variables in heuristic theory, including representativeness and overconfidence (Lingesiya & Kengatharan, 2014). Two independent variables will be the subject of the study in investment decision-making. Herding refers to the inclination of an investor to follow the decisions of most of the investors (Afriani & Halmawati, 2019). Measurement of herding is referred to as Luong et al., with measures like Luong et al. tracing reviews of other investors in the investment decisions made (Luong & Ha, 2011), for instance, selling or buying stock instruments, among others.

Investment decisions should be evaluated based on the risk-return tradeoff, introducing Modern Portfolio Theory which established that diversification can optimize this balance (Markowitz, 1952). Markowitz argues that "rational investors will seek maximum returns for a given level of risk, or minimum risk for a given level of return". Building on Modern Portfolio Theory, Sharpe developed the Capital Asset Pricing Model, providing a framework for determining an appropriate required rate of return on an asset. As Sharpe notes, "in equilibrium, the expected return on any asset is equal to the risk-free rate plus a risk premium proportional to its systematic risk" (Sharpe, 1964).

Fama expanded upon these concepts with the Efficient Market Hypothesis, proposing that market prices reflect all available information, making it theoretically impossible to consistently outperform the market. According to Fama, "in an efficient market, the expected return on any investment will be consistent with its risk" (Fama, 1970). More recently, Lo proposed the Adaptive

Markets Hypothesis, suggesting that "investment decision-making adapts evolutionarily to changing market conditions, reconciling market efficiency with behavioral biases" (Lo, 2004).

Statman has formulated the behavioral portfolio theory, which contends that "investors build their portfolios as layered pyramids, with each layer corresponding to a different mental account with its own goal and risk attitude" (Statman, 2019). Thaler stresses the relevance of "nudges" in investment choices, especially for retirement savings, that "default options have powerful effects on investment choices, often serving as implicit recommendations" (Thaler, 2018). Investment decision theory continues to evolve at the intersection of rational economic models and behavioral insights. As Baker and Ricciardi summarize, "the most comprehensive models of investment decision-making integrate traditional finance perspectives with psychological realities, acknowledging both the normative ideal and the descriptive reality of how decisions are actually made" (Baker & Ricciardi, 2015).

Millennials or Y Generation, born between 1980 and 2000. Based on the Central Securities Depository data, millennials and Z Generation account for over half of Indonesian investors; however, the figure is small compared to the overall Indonesian population. Backed by a survey from the Indonesia Millennial Report (IDN Research Institute, 2024), merely 2 percent of Indonesian millennials, equivalent to 8.5 million individuals, spent their earnings on investment. Despite being the dominant generation in Indonesia's demographic composition, this generation is recognized for their consumptive culture (Lubis et al., 2022). Investment decision is the policy of funds or capital investment allocation to obtain future profits in one or more assets (Wulandari & Iramani, 2014). Whereas, according to Kishori and Kumar, investment decisions are taken with the objective of gaining higher returns in the future, either directly by sacrificing current profits (Kishori & Kumar, 2016).

The Relationship Between Representativeness and Millennial Investment Decisions

Representativeness is defined as investors' decisions based on past performance and phenomena such as firm characteristics, management types, popularity, etc. to achieve earnings. Investors who are fond of representativeness may make biased decisions, such as over-weighting new experiences and neglecting the long-run average level (Rasheed et al., 2018). This implies that representativeness significantly contributes to the determination of investment decisions, as seen in research from (Putri & Halmawati, 2020) and (Subash, 2012). Contrarily, Mahadevi & Asandimitra

maintain that representativeness does not have any significant contribution to investment decisions (Mahadevi & Asandimitra, 2021).

H1: Representativeness affects millennial investment decisions

The Relationship Between Overconfidence and Millennial Investment Decisions

Overconfidence refers to people who are more confident than they should be, for instance, overstating their skills, knowledge, and abilities in a given situation (Theng et al., 2019). It is a normal condition and describes the extent to which a person feels confident in attaining or getting something. A study by Novianggie&Asandimitra and Adileyani&Mawardi explains that overconfidence has a positive impact on investment decision-making (Novianggie & Asandimitra, 2019); (Adielyani & Mawardi, 2020). Yet, unlike that conducted by Rakhmatulloh & Asandimitra, which identifies that overconfidence does not affect investment decisions (Rakhmatulloh & Asandimitra, 2019).

H2: Overconfidence affects millennial investment decisions

The Relationship Between Herding and Millennial Investment Decisions

Herding is an imitative impulse whereby investors make investment decisions without self-confidence, and a lack of proper knowledge about instruments they would like to invest in (Khalid et al., 2018). Herding behavior leads to irrational investor behavior and quick reaction to adjustments in other investor's decisions without considering the consequent risks (Madaan & Singh, 2019). Herding impacts investment decision, and with a rise in the extent of herding, the decisions turn out to be more irrational. This agrees with research by (Akinkoye & Bankole, 2020), (Madaan & Singh, 2019), and (Afriani & Halmawati, 2019) which affirm that herding behavior significantly affects investment decisions. Nevertheless, contrary to this, Subash's study says that herding behavior has no major impact on investment decisions (Subash, 2012).

H3: Herding affects millennial investment decisions

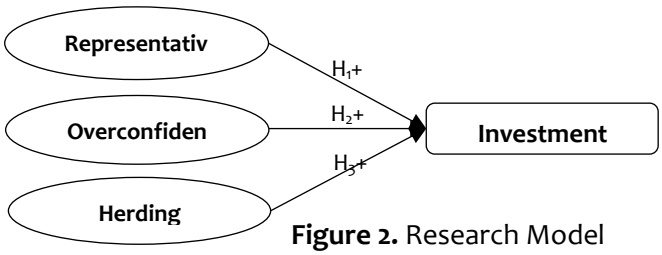

Figure 2. Research Model

3. METHODOLOGY

This study employs a quantitative approach based on primary data gathered through the distribution of questionnaires in the form of a Google Form to users of the Bibit Sharia-based application who are engaged in investment activities. The questionnaire is prepared based on a Likert scale with a number of pre-determined questions. The study focuses on investors, aged 25–40 years, using the Bibit Sharia-based application and residing in the West Java province.

The sampling method is convenience sampling through online dissemination. For the minimum sample size, the researcher uses the 5:1 indicator-to-question ratio or calculation of 5 indicators multiplied by 20 questions, which equals a minimum of 100 samples (Hair et al., 2017). The analysis method employed is Partial Least Squares. Essentially, the operationalization of research variables is as follows.

Table 1. Operational of Variables

Variable	Indicator	Source of Reference
Representativeness (X1)	1. Investors estimate future stock price changes based on the current stock price. 2. Using past performance to purchase stocks. 3. Avoiding investments in companies with a history of poor performance.	Baker et.al (2019)
Overconfidence (X2)	1. Investors feel that they are highly experienced. 2. Investors believe their average investment performance is better. 3. When purchasing profitable investments, investors feel their knowledge influences the outcome. 4. Investors are more confident in their own analysis than in financial analyses. 5. Past profitable investments were due to their skills. 6. They are confident that their skills and knowledge of the stock market can predict market conditions.	Baker et.al (2019)
Herding (X3)	1. Consulting others when buying or selling stocks. 2. Influenced by other investors' decisions in making transactions. 3. Reacting quickly to changes in other investors' decisions and following their reactions to the stock market. 4. Consulting with others before buying stocks. 5. Following blogs or forums before making stock purchases or sales.	Baker et.al (2019)
Investment Decisions (Y)	1. Having knowledge about financial management. 2. Having knowledge about stocks and investments. 3. Having knowledge about investing large amounts of money. 4. Having knowledge about stock price fluctuations. 5. Having knowledge about how to invest money. 6. Having knowledge about good money budgeting.	Khan et.al (2018)

Source: Adopted from references (Created by Authors, 2024)

Regarding data validity testing, it can be observed from the test of the loading factor value, which should be greater than 0.5, or 0.6 to 0.7 is also acceptable. It can also be tested by the Average Variance Extracted (AVE) value, which should be greater than 0.5 to be valid (Nadhila et al., 2024). For measuring the reliability, it uses a 0 to 1 scale, where Cronbach's alpha or composite reliability rate has to be above 0.7 to qualify as reliable (Hair et al., 2017). Inner model testing is attempting to predict the associations of latent variables. This testing is achieved by inspecting the path coefficient/direct effect, determination coefficient test (R2), and quality index (Latan & Ramli, 2013). Currently, in measuring the level of influence from a variable to another, direct effects testing is employed to track the association between variables, which are considered important when the value of t-statistic is greater than 1.96.

The relationship is indicated in the p-values column; where p-values within a relationship are less than 0.05, the relationship is considered important (Hair et al., 2017). Meanwhile, the quality index will strive to attempt the model goodness-of-fit to the data. The quality index can be quantified using the GoF Index (*Goodness of Fit*) through GoF = $\sqrt{(Comm\ x\ R^2)}$, where the value varies as 0.10 as being low, 0.25 as being medium, and 0.36 as being high, indicating that the value is seen as very good.

The data collected from 300 survey respondents were analyzed utilizing Structural Equation Modeling (SEM) with Partial Least Squares (PLS). SEM-PLS is a multivariate statistical analysis that is able to evaluate various relations among a group of independent and dependent variables at once (Sarstedt et al., 2017). This method was selected since it is especially helpful for the testing of intricate models with latent constructs and is well-suited for exploratory research in behavioral finance.

4. RESULT AND DISCUSSIONS

Based on Table 2, it can be seen that number of respondents consists of 300 investors. The average scores for variables representativeness bias, overconfidence bias, herding bias, and investment decisions are 12.63, 17.59, 18.31, and 25.72, respectively. Meanwhile, the standard deviation values for data distribution are 1.473, 3.294, 2.845, and 3.176, respectively. The lower standard deviation, closer data points are to the mean. The respondent data consists of 180 male respondents (60 percent) and 120 female respondents (40 percent). Based on age, 37 respondents (12.57 percent) are aged 18-20 years, 93 respondents (31 percent) are aged 21-29 years, and 170

respondents (56.43 percent) are aged 31-40 years. Based on the respondents' highest educational attainment, 72 respondents (24 percent) are high school/vocational school graduates, and 228 respondents (76 percent) are bachelor's degree graduates. Based on occupation, 144 respondents (48 percent) are private employees, 87 respondents (29 percent) are entrepreneurs, and 69 respondents (23 percent) are students.

Table 2. Descriptive Statistics

Variable	RB	OB	HB	KI
N Valid	300	300	300	300
Missing	0	0	0	0
Mean	12.63	17.59	18.31	25.72
Std. deviation	1.473	3.294	2.845	3.176
Variance	4.231	12.738	9.518	11.842
Minimum	25	35	50	60
Maximum	75	140	190	235

Source: Output Data analyzed, 2024

Based on Table 3, this research conducted a bias test or Common Method Variance (CMV) test using the SPSS V.25 application to measure constructs in a study, and an unbiased construct is a construct that has a percentage < 50 percent (Kock et al., 2021). the test result is 37.433 percent. This indicates that the tested data shows no occurrence of Common Method Variance.

Table 3. Results of Common Method Variance Analysis (CMV)

Extraction Sums of Squared Loadings		
Total	Percent of Variance	Cumulative (percent)
16.276	37.433	37.433

Source: Output Data analyzed, 2024

The validity test aims to measure whether a questionnaire is valid or not based on the data. The output data below shows the values of Outer Loading and Average Variance Extracted (AVE). Based on the Outer Loading test results in Table 4, there are 20 question indicators used in this study, and all of them are declared valid because the factor loadings are greater than 0.5, allowing the questions to proceed to the next testing stage. Based on the outer loading test of 20 question indicators, all results were valid and have met the criteria to proceed to the Average Variance Extracted (AVE) testing stage.

Table 4. Outer Loading Factor Test

Variables & Questions	Loading Factor	Result
Representativeness 1(I estimate future stock price changes based on the current stock price)	*0,532*	Valid
Representativeness 2(I use past stock performance as a basis for purchasing stocks)	*0,651*	Valid
Representativeness 3(I avoid investing in companies with a history of poor performance)	*0,786*	Valid
Overconfidence 1(I feel that I am highly experienced in stock investments)	*0,619*	Valid
Overconfidence 2(I believe my average investment performance is better than others)	*0,738*	Valid
Overconfidence 3(When purchasing profitable investments, I feel that my knowledge influences the outcome)	*0,803*	Valid
Overconfidence 4(I am more confident in my own analysis than in professional financial reports)	*0,770*	Valid
Overconfidence 5(I attribute my past profitable investments to my skills)	*0,667*	Valid
Overconfidence 6(I am confident that my knowledge of the stock market enables me to predict market conditions)	*0,712*	Valid
Herding 1(I consult with others before buying or selling stocks)	*0,651*	Valid
Herding 2(My investment decisions are influenced by decisions of other investors)	*0,738*	Valid
Herding 3(I react quickly to changes in other investors' decisions and follow their actions in the stock market)	*0,606*	Valid
Herding 4(I seek advice from others before making stock purchases)	*0,529*	Valid
Herding 5(I follow blogs or forums before making stock purchase or sale decisions)	*0,635*	Valid
Investment Decisions 1(I have sufficient knowledge about financial management)	*0,708*	Valid
Investment Decisions 2(I have sufficient knowledge about stocks and investments)	*0,813*	Valid
Investment Decisions 3(I have knowledge about investing large amounts of money)	*0,891*	Valid
Investment Decisions 4(I have sufficient knowledge about stock price fluctuations)	*0,842*	Valid
Investment Decisions 5(I have sufficient knowledge about how to invest money)	*0,722*	Valid
Investment Decisions 6(I have sufficient knowledge about effective money budgeting)	*0,791*	Valid

Source: Output Data analyzed, 2024

The results of the AVE test in Table 5 for all constructs show valid indicators, as they have AVE values above 0.5.

Table 5. Average Variance Extracted Test

Variable	AVE Mean	Result
Representativeness	*0,656*	Valid
Overconfidence	*0,718*	Valid
Herding	*0,632*	Valid
Investment Decisions	*0,794*	Valid

Source: Output Data analyzed, 2024

The reliability test indicates how consistently a variable is measured. The results of this test are evaluated based on the Cronbach's Alpha/Composite Reliability value, which should exceed 0.70, thus confirming that the variable measurement is reliable for each construct. Based on the results of the Composite Reliability test in Table 6, all variables are declared reliable as they produce values above 0.70.

Table 6. Composite Reliability Test

Variable	CR Value	Result
Representativeness	*0,731*	Reliable
Overconfidence	*0,852*	Reliable
Herding	*0,814*	Reliable
Investment Decisions	*0,906*	Reliable

Source: Output Data analyzed, 2024

The direct effect between related variables is indicated by the significance level, with the t-statistic column showing a value greater than 1.96 and p-values less than 0.05 (Hair et al., 2017). Based on the results of the direct effect test in Table 7, the relationships between variables are shown as either significant or non-significant.

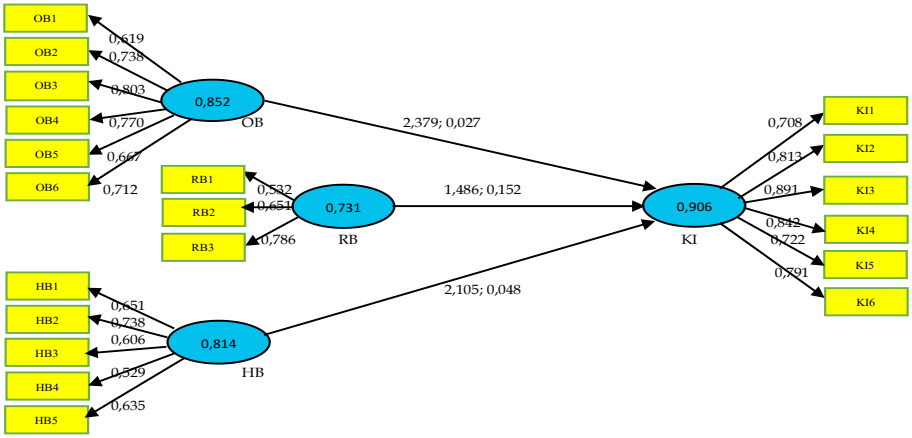

Figure 2. Graph of Direct Effect Analysis

Table 7. Direct Effect Test

Relationship of Variable	Original Sample (β)	t-Statistic	p-value	Result
Representativeness → Investment Decisions	0.124	1.486	0.152	Ho rejected
Overconfidence → Investment Decisions	0.235	2.379	0.027	Ho accepted
Herding → Investment Decisions	0.198	2.105	0.048	Ho accepted

Source: Output Data analyzed, 2024

Results of Direct Effect Test on Table 7 can be stated and elaborated as follows:

1. H1: Representativeness Bias does'nt have a significant impact on millennial sharia investment decisions in West Java, with coefficient β 0.124; t-Statistic value of 1.486 (Less than 1.9) and p-value of 0.152 (greater than 0.05).

2. H2: Overconfidence Bias has a significantly positive influence on millennial sharia investment decisions in West Java, with coefficient β 0.235; t-Statistic value of 2.379 (greater than 1.9) and p-value of 0.027 (less than 0.05).
3. H3: Herding effect has a significant positive influence on millennial sharia investment decisions in West Java, with coefficient β 0.198; t-Statistic value of 2.105 (greater than 1.9) and p-value of 0.048 (less than 0.05).

The test results, as shown in Table 8, indicate an Adjusted R-Square value of 0.647, which means that variables of Representativeness Bias, Overconfidence Bias, and Herding influence Investment Decisions by 64.7 percent. Meanwhile, the remaining 35.3 percent is influenced by other variables outside of this research model.

Table 8. Adjusted R Square Test

	R Square	R Square Adjusted	Result
Investment Decision Making	0.621	0.647	Moderate

Source: Output Data analyzed, 2024

The Quality Index test is applied to evaluate the overall model. A high GoF value determines how good the resulting model is. Ghozali and Latan state that the communality value is 0.5, and the R-Square values range from the smallest at 0.02, medium at 0.13, and largest at 0.26 (Latan & Ramli, 2013). To calculate the GoF value, the formula used is GoF = $\sqrt{(Comm\ x\ R^2)}$. Based on the Quality Index test results in Table 9, the GoF value is > 0.26, indicating that this research model is categorized as high.

Table 9. Godness of Fit Test

Communality	R Square	GoF	Result
0.682	0.637	0.684	High

Source: Output Data analyzed, 2024

The results of the study show that of the three behavioral biases tested, only two have a significant effect on millennial sharia investment decisions in West Java, namely overconfidence and herding, while representativeness has no significant effect. These findings provide important insights into the characteristics of millennial generation investment behavior in the context of sharia finance.

Representativeness Has No Significant Effect

The results of the analysis show that representativeness bias has no significant effect on sharia investment decisions. This shows that millennial investors do not fully base their investment decisions on the pattern or past performance of a stock or company. This finding consistent with the research from Mahadevi & Asandimitri (2021) which found that representativeness does'nt have a significant effect on investment decisions (Mahadevi & Asandimitra, 2021) but contradicts previous studies such as Budiman & Ervina (2020) and Subash (2012), which assert that representativeness bias influences investment decisions by making investors rely on past performance patterns (Budiman & Ervina, 2020); (Subash, 2012). From the perspective of Behavioral Finance theory, the representativeness heuristic can lead investors to depend on perceived patterns rather than rational analysis (Ramdani, 2018). However, in the context of Sharia investment, investors may be more influenced by other factors such as ethical Islamic values and a preference for financial products that comply with Sharia principles, rather than merely relying on historical trends.

Overconfidence Has a Significant Positive Influence

The findings show that overconfidence bias has a positive and significant influence on investment decisions. Millennial investors who have a high level of confidence in their abilities and knowledge tend to make decisions independently, although sometimes without adequate risk considerations. This result is in line with research by Theng et al. (2019) and Pompian (2012) which states that overconfident investors tend to overestimate their analytical abilities and ignore conflicting information.

In the context of sharia, overconfidence can be a challenge because it can lead to overly aggressive decision-making, without considering the principle of prudence in Islam. Therefore, it is necessary to strengthen sharia financial literacy which not only instills knowledge, but also awareness of the importance of tawazun (balance) in taking investment risks.

Herding Has a Significant Positive Influence

Further results show that herding has a significant influence on sharia investment decisions. Investors who have a tendency to herd tend to follow the majority or group decisions without conducting an in-depth analysis first. This finding supports studies by Madaan & Singh (2019) and Akinkoye & Bankole (2020), which found that investors tend to imitate other people's decisions as a form of protection against uncertainty. In Behavioral Finance theory, the herding effect explains

that investors tend to follow the majority's actions due to limited information or low confidence in making independent decisions (Mahmood et al., 2020).

In sharia investment practices, this phenomenon may occur due to widespread promotion and education about Sharia financial products within specific communities, leading investors to follow trends without conducting in-depth analysis.

From a theoretical perspective, this study strengthens the concept of behavioral finance by placing it in the context of Islamic culture and values. The finding that representativeness is not significant indicates that the sharia investment framework can moderate certain cognitive effects. Meanwhile, the dominant influence of overconfidence and herding indicates that financial decisions remain susceptible to behavioral bias, even though they are framed in religious principles. Practically, these results emphasize the importance of developing a sharia financial education program based on behavioral psychology, especially for the millennial generation who tend to be confident and exposed to a dynamic social environment. The program needs to equip young investors not only with technical skills, but also with the ability to manage psychological biases and strengthen sharia-responsible decision-making.

5. CONCLUSION

This study aims to analyze the influence of behavioral bias on sharia investment decisions among millennial investors in West Java, focusing on three main variables: representativeness, overconfidence, and herding. Using a quantitative approach through the Structural Equation Modeling–Partial Least Squares (SEM–PLS) method, data were obtained from 300 respondents who used the Bibit sharia investment application.

The results showed that overconfidence and herding bias had a positive and significant effect on millennial sharia investment decisions, while representativeness bias did not show a significant effect. This indicates that millennial generation investment decisions tend to be influenced by high self-confidence in personal abilities and a tendency to follow the behavior of other investors, but do not rely too much on past patterns or performance.

These findings provide important implications for the development of sharia financial literacy policies. Educational efforts are needed that not only improve technical understanding of investment instruments, but also target psychological and cognitive aspects in decision making, such as bias management and increasing independent analysis skills.

Theoretically, this study expands the understanding in the behavioral finance literature by placing behavioral bias in the context of local religious and cultural values. In practice, this study provides a basis for the development of a more contextual and adaptive sharia financial literacy program to the characteristics of the millennial generation.

The limitations of this study lie in the limited geographical coverage in West Java Province and the use of a purely quantitative approach. Therefore, further research is recommended to cover a wider area in Indonesia, consider a more diverse demographic profile, and combine qualitative and quantitative approaches to obtain a more comprehensive understanding of the dynamics of sharia investment behavior of the younger generation.

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