EMOTIONAL Biases as Mediator of Financial Literacy and Investment Decision Behavior of Bank Clients in Davao CITY

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ABSTRACT

This study explored the mediating effect of emotional biases on the relationship between financial literacy and investment decision behavior of bank clients in Davao City. A quantitative method employing a descriptive-correlational design and mediation analysis was employed, with 300 banking clients in Davao City as respondents, selected through the snowball sampling technique. Mean, standard deviation, Pearson's r, mediation analysis, and path plots were used to analyze the study results. Results revealed that bank clients exhibit a high level of investment behavior, with financial literacy playing a significant role in their decision-making. Emotional biases were also high, with loss aversion most dominant, indicating a strong tendency among clients to avoid financial losses. Correlation and mediation analyses confirmed significant relationships among financial literacy and investment decision behavior, emotional biases and investment behavior, and financial literacy and emotional biases. The mediation analysis further revealed a partial mediation effect, indicating that financial literacy influences investment decision behavior both directly and indirectly through emotional biases. These findings emphasize the dual importance of cognitive knowledge and emotional regulation in guiding sound investment decisions. The study concludes that enhancing both financial literacy and emotional intelligence is key to fostering prudent and well-informed investment practices among bank clients.

KEYWORDS: *Business management, investment decision behavior, financial literacy, bank clients, Davao City.*

INTRODUCTION

Investment decisions are complex and uncertain, especially when economic conditions, market trends, and individual circumstances are unknown (Gardi et al., 2021). Yeşildağ (2017) found that investors often lack knowledge of stock market decisions, which can hinder their rational behavior. Investors who lack knowledge of market dynamics may become overconfident and make foolish investments (Ansari & Moid, 2013). In Davao City, poor and middle-class clients tend to be cautious about investing, often exhibiting a negative attitude toward it due to limited financial knowledge and previous negative experiences. They prefer seeking professional advice before making risky investment choices, underscoring the importance of providing education and low-risk options for this demographic (Estrada et al., 2022). According to the cited research by Ahmed et al. (2021), individual investors often exhibit emotional biases while trading, which leads to mistakes and/or wrong investment choices, resulting in market outcomes that are either excessive or insufficient, rendering the financial marketplace inefficient. Niyozovna (2021) noted that economic conditions also influence investment decisions, with stock values rising during expansions and declining during downturns. Also, irrational thinking can significantly impact investment decisions, necessitating the consideration of emotional biases in such judgments (Jain et al., 2021). Similarly, Balmes (2023) highlighted that, as technology evolves, banks must prioritize inclusivity, security, and building trust with clients, which aligns with the need for investment behavior and trustworthy investment options. Ultimately, the study by Kusumaningrum et al. (2019) emphasized the need for enhanced financial education to address the unique challenges investors face.

Responsible investment decisions enable customers to allocate their resources to projects and activities that have benefits in both environmental and social terms, while still pursuing possible long-term financial gains (Stein, 2024). For a decade, banks and investors have increasingly embraced ESG factors in their financial strategies, which not only help reduce risks and tackle global issues but also strengthen client trust and satisfaction, leading to better client retention. It also noted that these investment choices made by bank clients play an essential role in driving both economic progress and positive social change in our country (Kocornik-Mina, 2021). Making well-informed investments allows bank clients to manage their own risks more effectively and, of course, improve potential returns. At the same time, Park & Jang (2021) suggest that it promotes the growth of sustainable businesses, which contributes to a more equitable and inclusive future for all.

A distinct correlation is also found with financial literacy and investment behavior. Individuals with a deep understanding of finance-related topics are more adept at assessing various investment alternatives and making judgments that align with their financial goals (Bagama, 2024). On the other hand, emotional biases can negatively affect the bank clients' investment decisions. Many people rely on gut feelings or psychological tendencies rather than solid market data, which often leads to poor financial outcomes (Ang et al., 2023). Studies have shown that financial literacy can help reduce the impact of these prejudices, leading to more rational, well-thought-out investment decisions by a bank client (Adil et al., 2022). Interestingly, Millennials tend to create more good investment decisions compared with Gen Z, who appear less influenced by understanding the financial topics. This emphasizes the importance of tailoring financial education to each generation's unique needs to support sound investment decision-making (Weixiang et al., 2022). Recent studies by Suresh (2021) have also made it increasingly clear that integrating financial education into investment planning is crucial for helping bank clients make better decisions and achieve better outcomes.

A research gap on emotional biases as a mediator between bank clients' investment decisions and financial literacy. While most prior research highlights a connection between financial literacy and better monetary outcomes, it often overlooks the nuanced role that emotional biases play in shaping those judgments. Notwithstanding the heightened emphasis on financial literacy as a vital element in good investment decision-making, there's a significant study vacuum in the complex area of how emotional biases mediate the bank clients' investment due to the few studies specifically targeting bank clients as respondents that have been carried out. Hence, the research utilized these factors to investigate the association between financial literacy and investment decision-making, with emotional biases serving as a mediating factor, to further empirical research on the investment choices of bank clients in Davao City.

Findings from this research can assist bank clients in understanding how banks impact financial literacy and investment decisions, with the mediating effect of emotional biases, offering useful insights into the elements that facilitate or obstruct prudent investment decisions. The researcher will disseminate the study findings by providing duplicates of the written materials to the library in the locale. The study's results will be published in a thoroughly reviewed paper to achieve greater exposure and academic recognition, and will be presented at national and international conferences to reach writers and practitioners.

METHODS

This study employed a quantitative method utilizing a descriptive-correlational design and mediation analysis. The descriptive technique, as articulated by Singh (2023), delineates a situation, population, or phenomenon under investigation. The descriptive quantitative technique is used to determine the relationship between financial literacy and investment decision behavior, and emotional biases as the mediating variable. Furthermore, McCombes (2019) asserts that a descriptive research strategy might examine one or many variables using various qualitative and quantitative methodologies. In contrast to experimental research, the researcher in this study examines and assesses the factors. This is to improve mathematical simulations, ideas, and hypotheses on the phenomenon. The conceptual framework model was created to develop the relationship between financial literacy and investment decision behavior, and emotional biases serving as the mediating variable, providing a more nuanced understanding of decision-making processes.

In the study by Stangor and Walinga (2019), it was asserted that a correlational research design investigates two or more interrelated variables and evaluates the relationships among them. In the context of this study, the variables financial literacy, investment decision behavior, and emotional biases as the mediating variables will be correlated. Moreover, this design proved appropriate for employing a descriptive correlational research methodology to examine their relationships.

The research conducted in Davao City offers a significant chance to collect varied viewpoints and data. Researchers can analyze variances in bank clients' behavior, preferences, and demographics across geographic areas within the city. Also, the researcher chose Davao City because it has a large number of banks and clients with more than 1 account, reflecting the area's strong economic activity. The site is considered suitable for the researcher's inquiry as it allows the interviewer to verify that they are engaging with a genuine individual. This study will survey commercial banks in Davao City, as they meet the requirements for this study. A total of 300 respondents participated in the study, selected through the snowball sampling technique. In this study, existing bank customers can refer other potential participants from their circles, enabling data collection with ease while maintaining a sample representative of the target population. This aligns with the research of Harjan et al. (2023), which validates a sample size of 300 as adequate for achieving desirable and significant outcomes. The instrument employed in the study was an adapted questionnaire from various academic sources. The survey questionnaire validated by experts, consists of three parts. Part 1 focuses on the investment decision behavior, adapted from the study by Tinguha & Ybañez (2023), consisting of 9 statements with a Cronbach's alpha of 0.88. Part II on financial literacy, adapted from Mugo (2016), with 19 statements and a Cronbach alpha of 0.822. Part III on emotional biases, adapted from the study of Ritika & Kishor (2020), 19 statements and a Cronbach alpha of 0.884

The researchers used the standard protocol of collecting the necessary data. The process commenced with securing ethical clearance from the University of the Immaculate Conception Research Ethics Committee. Upon approval, the Dean of the Graduate School subsequently endorsed it. The ten dimensions of research ethics include social value, informed consent, vulnerability considerations, risk-benefit assessment, privacy and confidentiality, justice, transparency, researcher qualifications, adequacy of facilities, and community involvement. Letters requesting research were sent to the managers or heads of the offices of the purposely chosen commercial banks in Davao City. collection, the researcher ensured that participants' work was not disturbed. The survey was self-administered by the respondents, with the researcher providing instructions and clarifications whenever necessary.

To accommodate participants' work schedules, the survey was made available both on-site and remotely, enabling employees to complete it at their convenience. Participants were given ample time to independently assess the ICF and survey form. Prior to survey administration, respondents were oriented to the purpose of the study, the contents of the informed consent form, their rights as research participants, the extent of their participation, and their right to withdraw from the study without penalty. Signed informed consent forms were obtained before administering the survey questionnaires. They had the freedom to answer all questions, take breaks, request clarification, or withdraw from the survey without penalty. Once the desired number of responses was collected, the data were encoded, organized, and tabulated with the guidance of a statistician. It was then analyzed using the appropriate statistical methods. The data collection process took the researcher two weeks to complete.

RESULTS and DISCUSSION

Status of Investment Decision Behavior, Financial Literacy, and Emotional Biases. Table 1 shows that investment decision behavior among bank clients is high, with an overall mean of 3.84, indicating that clients actively follow sound investment practices. This reflects their ability to make informed decisions and adjust strategies based on financial knowledge and market signals, demonstrating strong engagement and sophistication. The standard deviation ranged from 0.74 to 0.90, showing some variation in responses. Items scoring below 1.0 indicate response consistency. Notably, the item pertaining to believing that making investment decisions is aided by financial literacy, defined as knowing about money management, obtained a very high rating of 4.24. It implies that the bank clients strongly recognize the importance of having sufficient financial literacy when making investment decisions. This supports Ariwangsa et al. (2024), who found that higher financial literacy enhances investment decision-making and management. Meanwhile, respondents who preferred an investment regularly mentioned or promoted in the media had the lowest mean score of 3.50, which was described as high. This suggests that bank clients' investment decisions are not primarily influenced by media coverage, though it does have some impact.

Presented the concept of financial literacy as measured in five indicators, which are financial knowledge, financial behavior, financial awareness, and financial attitude. Based on the data, financial literacy is high, with an overall mean of 3.83 (evident) and a standard deviation of 0.87, indicating consistent responses. The results imply that the majority of bank clients have a strong understanding and practical application of financial concepts, enabling them to efficiently manage resources, make well-informed investment decisions, and exhibit positive financial attitudes. Financial Knowledge scored a mean of 3.83 (high) with a standard deviation of 0.88, indicating that bank clients are well-informed about investment products, market dynamics, risk assessment, and diversification. This enables them to make informed investment decisions and manage risk effectively. These findings align with Pathirannahalage and Abeyrathna (2020), which suggests that individuals with strong financial knowledge tend to manage their finances more efficiently.

Table 1

Status of Investment Decision Behavior, Financial Literacy, and Emotional Biases

Variables and Indicators	Mean	SD	Description
Investment Decision Behavior	**3.84**	**0.80**	**High**
Preferring to invest money into a Current Account Savings Account (CASA) deposit than any of the other investing options offered.	3.53	0.90	High
Deciding to purchase an investment is based on the company's past performance, including past returns.	3.99	0.78	High
Company's or business's fundamentals such as dividend payments, cash flows, and earnings growth as the basis for investment purchasing selections.	3.94	0.74	High
Preferring to purchase investments with high rates of return.	4.00	0.79	High
Preferring to purchase an investment that is recently outperforming the market.	3.69	0.80	High
Choosing to purchase an investment that was less expensive recently in anticipation of large future returns.	3.76	0.77	High
Preferring to purchase investments that are recently remained secure	3.90	0.76	High
Choosing to prefer an investment that is being regularly mentioned or promoted in the media.	3.50	0.87	High
Believing that making investment decisions is being aided by financial literacy, defined as knowing about money management.	4.24	0.78	Very High
Financial Literacy	**3.83**	**0.87**	**High**
Financial Knowledge	3.83	0.88	High
Financial Behavior	3.86	0.91	High
Financial Awareness	4.31	0.75	Very High
Financial Attitude	3.32	0.93	Moderate
Emotional Biases	**3.58**	**0.83**	**High**
Loss Aversion Bias	3.72	0.90	High
Status Quo Bias	3.55	0.75	High
Overconfidence Bias	3.63	0.79	High
Self-control Bias	3.34	0.89	Moderate
Regret Aversion Bias	3.68	0.82	High

Notably, financial behavior has a mean rating of 3.86 (evident), which falls on the higher end, with a standard deviation of 0.91. This suggests a strong tendency among respondents to manage their finances responsibly, including keeping track of their expenses, sticking to a budget, avoiding debt for non-essential spending, and making a point to save money even when times are tough. This aligns with the study by Bhushan and Medury (2014), which emphasized that financial behavior positively influences how people handle their money by setting budgets, making timely bill payments, and regularly saving money, all of which are essential for both general well-being and financial security.

Followed by the financial awareness indicator, which has a mean of 4.31 (very evident), it was characterized as very high, with a standard deviation of 0.75, indicating a very evident level of financial awareness and strong recognition of the importance of financial education in making informed investment decisions. This result was supported by the study by Krisanto and Gusaptano (2020), which found that by keeping clients informed and aware of the importance of financial education, opportunities, and risks, clients with good financial awareness are able to make better investment decisions.

Also, the financial attitude, with a mean of 3.23 (fairly evident), was described as moderate, with a standard deviation of 0.93. This means that bank clients demonstrate a neutral outlook and a responsible mindset towards financial matters. These findings are consistent with Bhushan and Medury (2014), who emphasized that financial attitudes significantly influence individuals' financial planning, saving practices, and investment-related behaviors, ultimately shaping sound financial decision-making.

Moreover, the emotional biases data showed a favorable mean score of 3.58, indicating that bank clients have a strong awareness of their emotional tendencies in investment decisions. The consistent pattern, reflected by a standard deviation of 0.83, suggests similar experiences among clients regarding emotional influences on financial behavior. These findings support Kumar and Chaurasia (2024) by showing that emotional biases significantly affect investment decisions and by emphasizing the importance of recognizing and managing these biases to improve investment outcomes.

It is worth noting that loss aversion recorded the highest mean score of 3.72 (favorable and high), indicating that bank clients are more emotionally impacted by potential losses than equivalent gains. This often leads to hesitation in making rational investment decisions, underscoring the need for financial education on managing emotional reactions to risk. These findings align with

Rahawarin (2023), who noted clients' tendency to avoid choices with possible losses, and Liberto (2024), who emphasized that loss aversion bias makes losses feel more psychologically significant than comparable gains.

The status quo bias among bank clients is high (mean = 3.55), indicating that many prefer to maintain their current financial or investment situations despite potential benefits from change. This aligns with Akinkoye and Bankole's (2020) findings that clients tend to resist change and stick to familiar choices, which may lead to holding outdated or less advantageous investment portfolios and missing better opportunities.

The overconfidence bias among bank clients is high (mean = 3.63), suggesting that many overestimate their investment knowledge and skills. This supports Seraj et al. (2022), who found that while financial literacy improves investment decisions, overconfidence also plays a key role. Similarly, Sattar et al. (2020) highlight that although confidence aids investment judgments, excessive confidence can cause investors to overlook risks, increasing chances of failure and leading to excessive trading.

Notably, self-control bias received the lowest mean score of 3.34 (still favorable and high), indicating many bank clients struggle to maintain discipline in achieving their investment and savings goals. This aligns with Akinkoye and Bankole (2020), who found that clients often prioritize short-term gratification over long-term savings, reflecting significant self-control challenges in financial management.

Also, the Regret Aversion bias indicator obtained a mean score of 3.68 (favorable), described as high, with a standard deviation of 0.82, indicating that many respondents let their investment decisions be heavily influenced by their fear of regretting them later. These findings are consistent with Ritika and Kishor (2020), who emphasized that emotional biases are inherent psychological tendencies that influence financial judgments and investment-related behaviors.

Correlations Between Variables. The data in Table 2 shows the relationship between financial literacy (independent variable), investment decision behavior (dependent variable), and emotional biases (mediating variable). It can be noted that financial literacy and investment decision behavior have a significant, moderate positive relationship ($r = 0.526$, $p < .05$). The findings suggest that bank clients with a higher level of financial knowledge are more likely to make thoughtful, sound investment choices. The study also highlights a moderate positive relationship between emotional biases and investment behavior (r = 0.601, p .05), showing that emotions play a significant role in shaping investment decisions. Additionally, the study found a moderate positive correlation (r = 0.369, $p < .05$) between financial literacy and emotional biases. This suggests that more financially literate clients are better equipped to manage emotional biases, helping them make more rational and effective investment decisions.

Table 2

Correlations Between Variables

Paired Variables	**R**	***p-value***	**Remarks**
Financial Literacy and Investment decision behavior	.526	.001	Significant
Emotional Biases and Investment decision behavior	.601	.001	Significant
Financial Literacy and Emotional Biases	.369	.001	Significant

The results align with Dureha and Jain (2022), who found a strong link between financial literacy and emotional biases, showing that financially literate bank clients are better at recognizing and managing emotional influences, leading to more rational and successful investment decisions. Similarly, Youssef et al. (2021) reported that financial literacy reduces emotional biases such as fear, overconfidence, and regret among investors. Together, these studies emphasize that financial literacy plays a crucial role in minimizing emotional biases and supporting more informed, logical investing choices.

Mediation Analysis. The data in Table 3 shows that financial literacy significantly influences investment decision behavior both directly ($\beta = 0.467$) and indirectly through emotional biases ($\beta = 0.304$). This means that higher financial literacy not only promotes wiser investment decisions but also helps clients better manage emotional biases, improving decision-making. The total effect of financial literacy on investment behavior is strong ($\beta = 0.770$), underscoring its crucial role.

Table 3

Mediation Analysis of Emotional Biases on the Relationship Between Financial Literacy and Investment Decision Behavior

Independent Variable (IV) = Financial Literacy
Dependent Variable (DV). = Investment decision behavior
Mediating Variable (MV). = Emotional Biases

	Standardized Beta (β)	Standard Error	p-value
Direct Effects (IV → DV)			
Financial Literacy on Investment decision behavior	0.467	0.046	<.001
Indirect Effects (IV→ MV → DV)			
Financial Literacy → Emotional Biases → Investment decision behavior	0.304	0.035	<.001
Total Effects (IV → DV)			
Emotional Biases → Investment decision behavior	0.770	0.048	<.001
Path Coefficients			
Emotional Biases → Investment decision behavior	0.611	0.045	<.001
Financial Literacy → Investment decision behavior	0.467	0.046	<.001
Financial Literacy → Emotional Biases	0.497	0.043	<.001

	R-Squared
Investment decision behavior	0.556
Emotional Biases	0.236

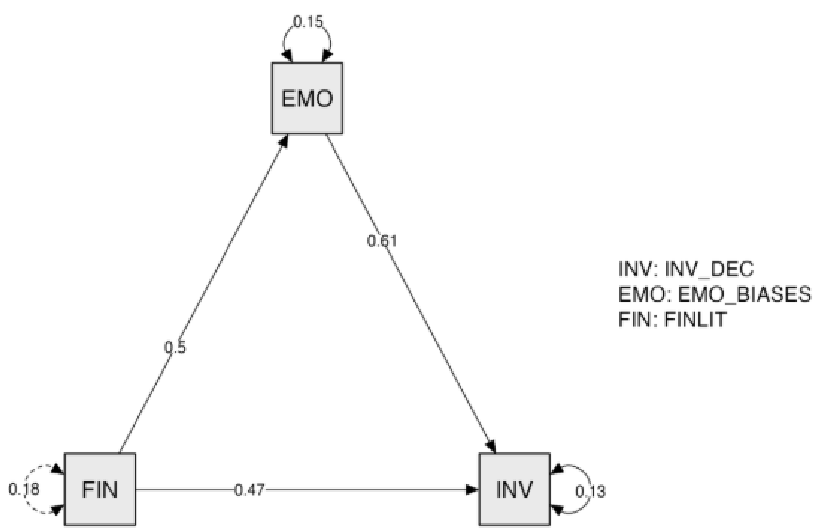
The model explains 55.6% of the variance in investment decision behavior (r2 = 0.556), indicating that financial literacy and emotional biases together are key drivers of investment decisions. Additionally, financial literacy accounts for 23.6% of the variance in emotional biases (r2 = 0.236), indicating it contributes to bias management but is not the sole factor. The high r2 values confirm that the model fits the data well.

Path Plot. The Path Plot in Figure 1 shows that financial literacy significantly affects investment decision-making behavior, both directly and indirectly through emotional biases. Financial literacy has a direct, positive impact on investment decisions (β = 0.47), indicating that financially literate bank clients tend to make more rational investment choices. Indirectly, financial literacy influences emotional biases (β = 0.50), which in turn affect investment decisions (β = 0.61), indicating that financial literacy improves investment behavior by helping regulate emotional biases. The model also reveals unexplained variances: 15% for emotional biases, meaning 85% is explained by financial literacy, and 13% for investment decision behavior, meaning 87% of its variation is accounted for by the combined effects of financial literacy and emotional biases. The Mediation Analysis and Path Plot Model both confirm that emotional biases significantly mediate the relationship between financial literacy and investment decision behavior.

The mediation analysis shows a strong direct effect of financial literacy on investment decisions (β = 0.467), which the path plot model supports with a similar coefficient (0.47). This indicates that individuals with higher financial literacy are more likely to make informed and sound investment choices.

Figure1

The Path Plot on the Significance of the Relationship between Variables



Furthermore, the mediation analysis shows a significant indirect effect of financial literacy on investment decisions through emotional biases (standardized estimate = 0.304). This is supported by the path plot, which shows a strong link between financial literacy and emotional biases ($\beta = 0.50$) and between emotional biases and investment decision behavior ($\beta = 0.61$). Together, these findings indicate that improved financial literacy helps individuals manage emotional biases, leading to more rational and informed investment decisions. High r2 values in both analyses demonstrate the model's robustness: the mediation model accounts for 55.6% of the variance in investment decision behavior, with financial literacy and emotional biases combined accounting for 23.6% of the variance in emotional biases. Thus, financial literacy, directly and indirectly, plays a significant role in shaping investment decision behavior.

The study confirms that while Modern Portfolio Theory (Markowitz, 1952) assumes investors are rational and seek optimal risk-return combinations, Behavioral Finance argues that emotional and cognitive biases frequently disrupt rational decision-making. This means that even well-informed bank clients can make poor decisions if they do not manage emotional factors. Thus, successful investing requires combining financial knowledge with emotional intelligence, integrating both Behavioral Finance and MPT principles.

CONCLUSION

In conclusion, this study's findings provided several valuable insights into the status of the variables. The results showed that Bank clients in Davao City demonstrate a high level of investment decision behavior, strongly influenced by financial literacy, particularly the belief that financial knowledge aids investment decisions. While media-promoted investments are approached with caution, overall financial literacy is high, with financial awareness the most evident aspect and financial attitude in need of further development. Emotional biases also play a significant role, especially loss aversion, which strongly affects client decisions, though self- control bias shows room for improvement. Significant relationships exist between financial literacy, emotional biases, and investment decision behavior, with emotional biases partially mediating the effect of financial literacy on investment decisions. This highlights the critical role of both financial knowledge and emotional factors in shaping prudent investment behavior.

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