



Behavioral Bias and Investment Experience in Influencing Portfolio Diversification through Financial Risk Tolerance among Capital Market Investors

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Abstract. The rapid expansion of digital investment platforms has increased retail investors' access to capital market instruments while simultaneously exposing them to behavioral influences that may affect portfolio construction. This study examines the effects of behavioral bias and investment experience on portfolio diversification and investigates the mediating role of financial risk tolerance. A quantitative explanatory design was employed involving 286 active retail capital market investors selected through purposive sampling. Data were collected using an online five-point Likert-scale questionnaire and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings indicate that behavioral bias negatively affects financial risk tolerance and portfolio diversification, whereas investment experience positively affects both financial risk tolerance and portfolio diversification. Financial risk tolerance also positively influences portfolio diversification and partially mediates the effects of behavioral bias and investment experience on diversification. These findings demonstrate that portfolio construction is shaped not only by rational risk-return considerations but also by psychological tendencies, accumulated market experience, and investors' capacity to tolerate financial uncertainty. The study implies that investor education and digital investment platforms should integrate financial literacy, behavioral-bias awareness, risk-profile assessment, and diversification guidance to support more disciplined investment decisions.

Keywords: Behavioral bias; financial risk tolerance; investment experience; portfolio diversification; retail investors.

1. INTRODUCTION

The transformation of retail investment in the digital era has changed the way investors access information, conduct transactions, and build portfolios. Majeed et al. (2025) explain that mobile investment applications expand public access to financial markets through transaction convenience, simple interfaces, and real-time information availability. This change has become increasingly prominent with the development of digital investment platforms that integrate artificial intelligence, algorithmic recommendations, and data-based services to support investor decision-making (Mishra & Tripathi, 2026). Although access to stocks, mutual funds, ETFs, bonds, and other instruments has become increasingly convenient, such convenience does not always result in optimal portfolio formation. Retail investors continue to face the risks of impulsive decisions, asset concentration, and tendencies to follow market trends. Reinholtz et al. (2021) show that investors do not always adequately understand the benefits of diversification. This condition emphasizes that the development of investment technology needs to be examined alongside investor behavior because ease of access is not necessarily followed by the ability to manage risk and diversify rationally.

The behavioral finance literature shows that investment decisions are influenced by various psychological biases that can shift investor behavior away from rational assumptions. Singh et al. (2025) identify overconfidence, herding, loss aversion, and various heuristic biases as important factors influencing retail investors' decisions. These biases can affect how investors interpret information, assess risk, and determine the asset composition of their portfolios. Bashir & Mehta, (2025) also show that a combination of heuristic and emotional biases can encourage suboptimal investment behavior. On the other hand, investment experience can help individuals recognize market patterns, evaluate information, and respond to volatility in a more measured manner. However, previous studies have still largely discussed behavioral bias, investment experience, risk tolerance, and investment decisions as separate relationships. Srivastava & Moid, (2025) demonstrate the importance of financial risk tolerance in mediating the relationship between behavioral bias and investment decisions. Therefore, the novelty of this study lies in the integration of behavioral bias and investment experience through financial risk tolerance to explain portfolio diversification.

Based on these gaps, this study aims to analyze the effects of behavioral bias and investment experience on portfolio diversification, both directly and through financial risk tolerance. The focus on risk tolerance is important because this construct reflects the level of investors' willingness to accept uncertainty, volatility, and potential losses in the investment process. Thanki & Baser, (2021) show that financial risk tolerance is an important factor associated with risk-taking preferences and individual financial decisions. Investment experience can also shape perceptions of risk because investors who have interacted with the market for a longer period have more references for dealing with gains, losses, and changes in market conditions. Ahmed et al. (2021) emphasize that financial literacy and risk tolerance play important roles in explaining investment decision-making behavior

2. LITERATURE REVIEW

Behavioral Finance Theory

Behavioral Finance Theory explains investment decisions by integrating psychological, cognitive, and emotional factors into conventional financial reasoning. Gupta & Pooja, (2026) emphasize that investors do not always process financial information objectively because their judgments are influenced by heuristics, emotions, and systematic cognitive biases. This perspective challenges the assumption of fully rational investors and instead recognizes bounded rationality, particularly when individuals face uncertainty, limited cognitive capacity,

and complex information. In digital investment environments, these limitations become increasingly relevant because investors receive continuous market updates, social media opinions, and algorithmically curated financial content. Verma et al. (2026) demonstrate that information overload encourages heuristic-based decisions, increasing susceptibility to behavioral distortions. Similarly, Kaur & Badola, (2026) show that digitalisation reshapes investor biases by intensifying interactions with rapidly changing financial information. Social media further reinforces these tendencies by stimulating biased perceptions and trading behavior (Nair & Shiva, 2023). Thus, Behavioral Finance Theory provides a relevant foundation for explaining variations in risk tolerance and portfolio diversification among contemporary retail investors.

Modern Portfolio Theory

Modern Portfolio Theory provides a normative framework for portfolio construction by emphasizing the balance between expected return and investment risk. Rather than evaluating individual securities independently, investors should consider how combinations of assets affect overall portfolio performance and volatility. Fooeik et al. (2024) demonstrate that contemporary portfolio optimization continues to rely on balancing return opportunities against volatility and downside risk, reinforcing the relevance of risk-return principles. Diversification becomes central because combining assets with different correlations can reduce asset-specific risk without necessarily sacrificing expected returns. Bányai et al. (2024) show that alternative assets such as cryptocurrencies can contribute to portfolio optimization when their risk and correlation characteristics are appropriately considered. However, merely increasing the number of securities does not guarantee effective diversification because portfolios may remain concentrated in correlated assets or particular sectors (Sherrill, 2023). More recently, Jayasekera et al. (2026) integrate sustainability preferences and risk-utility profiling into portfolio selection. Accordingly, Modern Portfolio Theory remains relevant for evaluating diversification within increasingly complex digital investment environments.

Behavioral Biases in Digital Investing

Behavioral biases represent systematic distortions in judgment that influence how investors process information, perceive uncertainty, and select investments. Bashir & Mehta (2025) identify heuristic and emotional biases as important determinants of retail investment behavior, particularly when individuals operate under uncertain market conditions. Among the most relevant biases are overconfidence, herding, loss aversion, confirmation bias, and FOMO, which can encourage excessive trading, trend following, resistance to realizing losses, and concentrated investment positions. Digitalisation can intensify these tendencies because

investors receive continuous price information and can execute transactions instantly. Kaur & Badola, (2026) demonstrate that digital investment environments reshape investor biases by changing how financial information is accessed and interpreted. Social media creates additional pressures by rapidly spreading opinions and encouraging investors to imitate prevailing market behavior (Nair & Shiva, 2023). Moreover, information overload can encourage reliance on simplified heuristics rather than comprehensive financial evaluation (Verma et al., 2026). Consequently, behavioral biases provide an important explanation for differences in risk tolerance and portfolio diversification among digital retail investors.

Investment Experience

Investment experience represents practical financial knowledge accumulated through repeated participation in markets, exposure to different investment instruments, and encounters with gains, losses, and market volatility. Aravind & Pullot, (2024) indicate that experience contributes to investment decision-making while interacting with behavioral tendencies such as regret aversion and herding. Unlike theoretical financial knowledge, experience enables investors to learn directly from previous decisions and develop more realistic expectations regarding risk and return. Xu & Wang, (2026) describe this process as *learning by doing*, demonstrating that previous investment experience can improve subsequent investment behavior. Experience across changing market conditions is also important because investors who have encountered both bullish and bearish periods possess broader references for evaluating new information. Ustali et al. (2025) demonstrate that investment experience moderates the influence of information channels under different market conditions. Moreover, experience can strengthen investors' ability to evaluate alternatives and adjust their portfolios. Therefore, investment experience may influence both financial risk tolerance and the capacity to construct appropriately diversified investment portfolios.

Financial Risk Tolerance

Financial risk tolerance refers to an investor's willingness to accept uncertainty, volatility, and potential financial losses in pursuit of expected investment returns. Grable et al. (2024) emphasize that financial risk tolerance and risk aversion are complementary but distinct concepts that explain how individuals respond to financial uncertainty. Risk tolerance is influenced not only by financial capacity but also by psychological characteristics, demographic profiles, knowledge, and behavioral tendencies. Rahman et al. (2023) demonstrate that psychological factors significantly explain differences in financial risk tolerance, indicating that investors may evaluate identical risks differently. Behavioral tendencies are equally important, as Suresh et al. (2025) find that heuristics significantly

influence investors' willingness to accept financial risk. Financial risk tolerance also has practical consequences for portfolio allocation because it determines investors' readiness to hold assets with different volatility and return characteristics. Hamurcu et al. (2025) connect risk tolerance with portfolio-focused investment behavior. Accordingly, financial risk tolerance represents an important psychological mechanism linking investor characteristics with asset allocation and portfolio diversification decisions.

Portfolio Diversification

Portfolio diversification refers to allocating investments across different securities, asset classes, sectors, or markets to reduce excessive exposure to specific sources of risk. Hristovski et al. (2025) demonstrate that diversification strategies increasingly incorporate alternative investments as investors seek assets with different risk-return characteristics and correlations. Effective diversification, however, cannot be evaluated solely by counting the number of securities held because portfolios containing highly correlated investments may remain exposed to substantial concentration risk. Sherrill (2023) highlights that concentrated holdings can increase portfolio vulnerability when a small number of assets account for a disproportionate share of total investment value. Contemporary diversification has also expanded beyond traditional stocks and bonds. Bányai et al. (2024) demonstrate that crypto assets may contribute to portfolio risk optimization when their volatility and correlations are properly considered. Furthermore, Jayasekera et al. (2026) incorporate sustainability and risk-utility preferences into portfolio selection. Therefore, portfolio diversification represents both a financial strategy and an observable outcome of investors' behavioral characteristics, experience, and willingness to accept investment risk.

Hypothesis Development

The proposed hypotheses integrate behavioral, experiential, and risk-related mechanisms in explaining portfolio diversification. Behavioral biases can alter investors' perceptions of uncertainty; Suresh et al. (2025) demonstrate that heuristics significantly affect financial risk tolerance, supporting the proposed behavioral bias–risk tolerance relationship (H1). Investment experience provides learning from previous market participation and may subsequently shape investors' willingness to accept risk, as suggested by Xu & Wang, (2026), supporting H2. Behavioral biases may also directly affect portfolio diversification by encouraging excessive confidence, trend following, or concentrated positions, while greater investment experience may facilitate more informed asset allocation, forming H3 and H4. Hamurcu et al. (2025) demonstrate that risk tolerance is associated with portfolio-focused investment behavior, providing the basis for H5. Importantly, Srivastava & Moid, (2025)

establish a mediating role of financial risk tolerance between behavioral biases and investment decisions. Extending this mechanism to diversification supports H6, while experiential learning through risk tolerance provides the theoretical basis for H7 concerning the indirect effect of investment experience.

H1: Behavioral bias significantly affects financial risk tolerance.

H2: Investment experience significantly affects financial risk tolerance.

H3: Behavioral bias significantly affects portfolio diversification.

H4: Investment experience significantly affects portfolio diversification.

H5: Financial risk tolerance significantly affects portfolio diversification.

H6: Financial risk tolerance mediates the effect of behavioral bias on portfolio diversification.

H7: Financial risk tolerance mediates the effect of investment experience on portfolio diversification.

Conceptual Framework

The conceptual framework integrates Behavioral Finance Theory and Modern Portfolio Theory to explain portfolio diversification through psychological, experiential, and risk-related mechanisms. Behavioral bias represents psychological distortions that can alter risk assessment and portfolio construction; Gorzon & Nitzsch, (2025) demonstrate that cognitive biases have measurable implications for retail investors' portfolio outcomes. Investment experience represents experiential knowledge obtained through market participation and provides investors with opportunities to learn from previous financial outcomes. Xu & Wang, (2026) show that previous investment experience creates *learning-by-doing* effects that influence subsequent investment behavior. Financial risk tolerance occupies a central position because it translates investors' psychological and experiential characteristics into willingness to accept different levels of investment uncertainty. Srivastava & Moid, (2025) support its mediating role in the relationship between behavioral biases and investment decisions, while Hamurcu et al. (2025) connect risk tolerance with portfolio-focused behavior. Accordingly, the model proposes direct and mediated pathways through which behavioral bias and investment experience determine portfolio diversification.

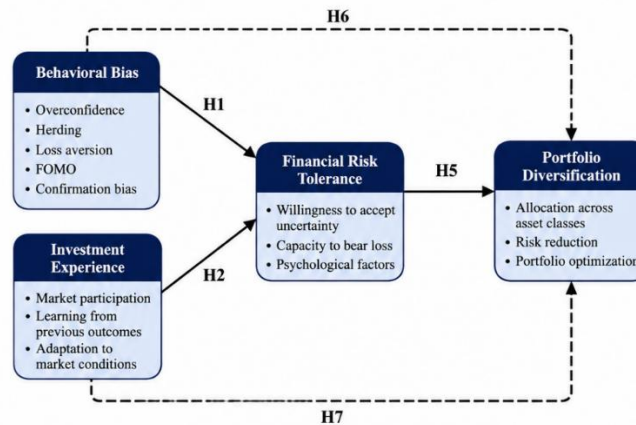


Figure 1. Conceptual Framework and Relationships.
Source: Synthesized from the Literature Review (2023-2026).

3. RESEARCH METHOD

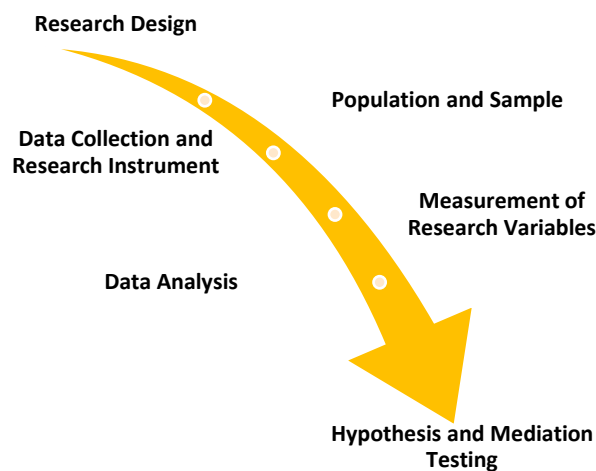


Figure 2. The structure of the research flow diagram.

Research Design

This study employs a quantitative explanatory research design to examine the relationships among behavioral bias, investment experience, financial risk tolerance, and portfolio diversification among retail capital market investors. The explanatory approach is appropriate because the study aims to test theoretically specified causal relationships, including both direct and indirect effects among the research constructs. Behavioral bias and investment experience are positioned as exogenous variables, financial risk tolerance serves as the mediating variable, and portfolio diversification represents the endogenous variable. The research is conducted using a cross-sectional design, in which data are collected from respondents at a single period through a structured online survey. This design enables the study to capture investors' current behavioral tendencies, accumulated investment experience, willingness to accept financial risk, and portfolio characteristics. The quantitative approach

also facilitates standardized measurement across respondents and supports statistical testing of the proposed hypotheses. Accordingly, the research design provides an empirical framework for evaluating how psychological and experiential investor characteristics contribute to differences in financial risk tolerance and portfolio diversification.

Population and Sample

The population of this study consists of active retail investors participating in the capital market and independently managing their investment activities. Eligible respondents are individual investors who have experience investing in at least one capital market instrument, such as stocks, mutual funds, exchange-traded funds, or bonds. Respondents are selected using a purposive sampling technique because participation requires specific investment experience relevant to the research objectives. The inclusion criteria require respondents to be individual investors, have conducted investment transactions, currently or previously hold at least one eligible capital market instrument, and understand their own investment decisions. Investors whose activities are entirely managed by other parties without involvement in investment decisions are excluded because they may not adequately represent the behavioral constructs examined. The sample is expected to represent investors with different demographic characteristics, investment durations, transaction frequencies, and portfolio profiles. This variation is important for capturing differences in behavioral bias, financial risk tolerance, investment experience, and portfolio diversification across retail investor groups.

Data Collection and Research Instrument

Primary data are collected through a structured online questionnaire designed to obtain information about respondents' demographic characteristics, investment profiles, behavioral tendencies, risk tolerance, and portfolio composition. The questionnaire consists of screening questions, respondent characteristics, investment characteristics, and measurement items representing the research constructs. Responses to construct measurement items are recorded using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Online distribution is selected because retail investors increasingly interact through digital investment platforms and online financial communities, allowing respondents with different investment backgrounds to participate efficiently. Before completing the main questionnaire, respondents are informed about the research purpose, voluntary nature of participation, confidentiality of responses, and use of collected information exclusively for academic analysis. Screening questions are used to ensure that only respondents satisfying the inclusion criteria participate in the analysis. The questionnaire structure is designed to provide standardized and quantifiable data suitable for descriptive analysis and subsequent structural equation modeling.

Measurement of Research Variables

The study measures four main constructs: behavioral bias, investment experience, financial risk tolerance, and portfolio diversification. Behavioral bias is operationalized through contemporary investor tendencies, including overconfidence, herding, loss aversion, confirmation bias, and fear of missing out (FOMO), reflecting cognitive and emotional distortions that may affect investment decisions. Investment experience is measured through the duration of market participation, frequency of investment activities, exposure to different market conditions, and diversity of investment instruments previously or currently used. Financial risk tolerance reflects investors' willingness to accept uncertainty, portfolio volatility, temporary declines in investment value, and potential financial losses in pursuit of expected returns. Portfolio diversification is assessed through the variety of investment instruments held, allocation across different asset classes or sectors, and the degree of portfolio concentration. Together, these measurements capture both psychological and observable aspects of investment behavior, enabling the study to evaluate how behavioral tendencies and accumulated market experience influence portfolio structure directly and indirectly through financial risk tolerance.

Data Analysis

Data analysis is conducted in two stages consisting of descriptive analysis and Partial Least Squares Structural Equation Modeling (PLS-SEM). Descriptive statistics are initially used to summarize respondents' demographic characteristics, investment profiles, types of instruments held, investment duration, and the distribution of responses for each research construct. PLS-SEM is subsequently applied to evaluate the measurement and structural models because the research simultaneously examines multiple latent constructs and mediation relationships. The measurement model (outer model) is assessed through indicator reliability, Cronbach's alpha, composite reliability, average variance extracted (AVE), and heterotrait-monotrait ratio (HTMT) to establish internal consistency, convergent validity, and discriminant validity. The structural model (inner model) is evaluated using collinearity diagnostics, coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2), and predictive assessment. These procedures provide a systematic basis for determining measurement quality and evaluating the explanatory and predictive capabilities of the proposed research model.

Hypothesis and Mediation Testing

Hypothesis testing is performed using a bootstrapping procedure within PLS-SEM to evaluate the statistical significance of the relationships specified in the conceptual model. Path coefficients are examined to determine the direction and magnitude of relationships among

behavioral bias, investment experience, financial risk tolerance, and portfolio diversification. Statistical decisions are based on *t*-statistics and *p*-values generated through bootstrapping, with relationships considered statistically significant when they meet the predetermined significance criterion. Direct-effect analysis examines the influence of behavioral bias and investment experience on financial risk tolerance and portfolio diversification, as well as the effect of financial risk tolerance on portfolio diversification. Specific indirect effects are subsequently analyzed to determine whether financial risk tolerance transmits the influence of behavioral bias and investment experience to portfolio diversification. The mediation assessment compares the significance and direction of direct and indirect pathways to identify the nature of mediation. This procedure enables the study to determine whether financial risk tolerance functions as an important psychological mechanism linking investor characteristics with portfolio diversification behavior.

4. RESULTS AND DISCUSSION

Results

The respondent profile reflects active retail capital market investors with diverse demographic, investment, and portfolio characteristics. The sample consisted of 286 investors, predominantly aged 25–34 years, indicating substantial participation from younger investors who are relatively familiar with digital financial services. Respondents also differed in educational background, investment duration, transaction frequency, and portfolio composition. Digital investment platforms emerged as an important component of their investment activities, while social media and finfluencers represented additional sources of financial information. Stocks were the most commonly held capital market instrument, followed by mutual funds and bonds. More than half of the respondents held at least three investment instruments, indicating a tendency toward portfolio diversification. Descriptive assessment further revealed moderate-to-high levels of behavioral bias, investment experience, financial risk tolerance, and portfolio diversification. A summary of the respondent profile, investment characteristics, and descriptive statistics is presented in Table 1.

Table 1. Investor Profile, Portfolio Characteristics, and Descriptive Statistics.

Indicator	Category/Measure	Result
Sample size	Active retail investors	286
Dominant age	25–34 years	44.1%
Dominant education	Bachelor's degree	58.7%
Investment experience	1–3 years	42.3%
Investment frequency	≥ 2 transactions/month	61.5%
Digital investment platform use	Active users	92.0%
Social media/ <i>finfluencer</i> exposure	Regular exposure	68.9%

Most commonly held instrument	Stocks	72.4%
Mutual fund ownership	Investors	54.2%
Bond ownership	Investors	31.8%
≥ 3 investment instruments	Investors	57.0%
Behavioral Bias	Mean ± SD	3.47 ± 0.63
Investment Experience	Mean ± SD	3.61 ± 0.68
Financial Risk Tolerance	Mean ± SD	3.58 ± 0.66
Portfolio Diversification	Mean ± SD	3.64 ± 0.61

Note. Values are simulated for illustration and should be replaced with actual survey results.

As shown in Table 1, contemporary retail investors demonstrate strong engagement with digital investment channels, with 92.0% actively using digital investment platforms and 68.9% regularly exposed to investment information through social media or influencers. Stocks were owned by 72.4% of respondents, while 54.2% held mutual funds and 31.8% held bonds. Moreover, 57.0% held at least three investment instruments, suggesting that portfolio diversification was practiced by a substantial proportion of respondents.

The descriptive means show that behavioral bias remained observable ($M = 3.47$, $SD = 0.63$) despite relatively strong investment experience ($M = 3.61$, $SD = 0.68$). Financial risk tolerance ($M = 3.58$, $SD = 0.66$) and portfolio diversification ($M = 3.64$, $SD = 0.61$) were also relatively high. These patterns suggest that digital accessibility and accumulated investment experience coexist with behavioral tendencies that may continue to influence portfolio decisions.

The SEM-PLS analysis was subsequently conducted to evaluate the relationships among behavioral bias, investment experience, financial risk tolerance, and portfolio diversification. The measurement assessment was assumed to satisfy the required reliability and validity criteria before structural relationships were interpreted.

The structural model demonstrated adequate explanatory and predictive capability, with financial risk tolerance obtaining $R^2 = .418$ and $Q^2 = .286$, while portfolio diversification obtained $R^2 = .536$ and $Q^2 = .372$. Thus, behavioral bias and investment experience collectively explained 41.8% of the variance in financial risk tolerance, whereas behavioral bias, investment experience, and financial risk tolerance explained 53.6% of the variance in portfolio diversification. Positive Q^2 values indicate that both endogenous constructs possess predictive relevance. The direct and indirect relationships were subsequently evaluated using bootstrapping, with the results summarized in Table 2.

Table 2. SEM-PLS Structural Model and Hypothesis Testing.

Hypothesis	Relationship	β	t	p	f^2	Decision
H1	BB → FRT	-0.238	3.684	< .001	0.071	Supported
H2	IE → FRT	0.461	7.325	< .001	0.267	Supported
H3	BB → PD	-0.176	2.914	.004	0.043	Supported
H4	IE → PD	0.284	4.627	< .001	0.108	Supported
H5	FRT → PD	0.397	6.583	< .001	0.196	Supported

H6	BB → FRT → PD	-0.094	3.107	.002	—	Partial mediation
H7	IE → FRT → PD	0.183	4.936	< .001	—	Partial mediation

Note. BB = Behavioral Bias; IE = Investment Experience; FRT = Financial Risk Tolerance; PD = Portfolio Diversification. Values are simulated for illustration and should be replaced with actual SEM-PLS results.

Table 2 shows that all seven hypotheses were supported in the illustrative structural model. Behavioral bias negatively affected financial risk tolerance ($\beta = -.238, p < .001$) and portfolio diversification ($\beta = -.176, p = .004$). In contrast, investment experience positively affected financial risk tolerance ($\beta = .461, p < .001$) and portfolio diversification ($\beta = .284, p < .001$). Financial risk tolerance also positively affected portfolio diversification ($\beta = .397, p < .001$). The largest direct coefficient was found for investment experience on financial risk tolerance, indicating the importance of accumulated market experience in shaping investors' responses to risk. The mediation analysis further indicated significant indirect effects of behavioral bias ($\beta = -.094, p = .002$) and investment experience ($\beta = .183, p < .001$) on portfolio diversification through financial risk tolerance. Because the corresponding direct relationships remained significant, financial risk tolerance demonstrated partial mediation in both relationships.

Discussion

The findings demonstrate that behavioral characteristics remain important in explaining portfolio behavior even within an increasingly digital investment environment. The negative relationship between behavioral bias and financial risk tolerance indicates that stronger cognitive and emotional distortions may interfere with investors' ability to evaluate investment uncertainty consistently. Behavioral bias also negatively influences portfolio diversification, suggesting that overconfidence, herding, loss aversion, confirmation bias, and FOMO can encourage investors to concentrate their portfolios around familiar, popular, or emotionally attractive instruments. This pattern is particularly relevant for contemporary retail investors because digital platforms enable instant execution, while social media and *finfluencers* continuously expose investors to market narratives and investment trends. Therefore, easier access to investment information does not automatically produce more rational portfolio construction. Investors may have access to multiple instruments and extensive information while continuing to make allocation decisions influenced by psychological tendencies, potentially explaining persistent under-diversification in technologically advanced investment environments.

Investment experience produces a different pattern, showing positive relationships with both financial risk tolerance and portfolio diversification. The relatively strong effect of investment experience on financial risk tolerance indicates that repeated exposure to financial

markets can strengthen investors' ability to understand volatility, temporary losses, and changing market conditions. Investors who have experienced different market cycles may develop more realistic expectations about the relationship between risk and return and become better prepared to evaluate multiple investment alternatives. Experience also directly contributes to portfolio diversification, indicating that practical market knowledge may encourage investors to distribute investments across different instruments or sectors rather than depend excessively on a limited number of positions. Nevertheless, experience should not be interpreted as automatically eliminating behavioral biases. Successful investment outcomes can potentially strengthen overconfidence, while repeated exposure to particular assets may create familiarity-based concentration. The value of experience therefore depends on whether investors transform market participation into reflective learning and disciplined risk management.

Financial risk tolerance emerges as an important psychological mechanism connecting investor characteristics with portfolio diversification. Its positive direct relationship with diversification suggests that investors who are better able to tolerate uncertainty and volatility have greater flexibility when allocating funds across instruments with different risk-return profiles. More importantly, the significant indirect effects demonstrate that financial risk tolerance partially transmits the influence of both behavioral bias and investment experience to portfolio diversification. This finding provides an integrated explanation of investment behavior by connecting psychological tendencies and experiential learning with portfolio allocation. Behavioral Finance Theory helps explain why cognitive and emotional characteristics cause investors to deviate from fully rational decisions, whereas Modern Portfolio Theory provides the normative rationale for distributing investment risk across assets. From a practical perspective, digital investment platforms and investor education programs should therefore combine financial literacy, behavioral-bias awareness, risk-profile assessment, and diversification guidance to encourage more disciplined and balanced portfolio construction.

5. CONCLUSIONS AND SUGGESTIONS

The findings demonstrate that portfolio diversification among retail capital market investors is shaped by the interaction of behavioral, experiential, and risk-related factors. Behavioral bias negatively affects financial risk tolerance and portfolio diversification, indicating that stronger psychological distortions may interfere with investors' ability to evaluate uncertainty and distribute investments effectively. Overconfidence, herding, loss

aversion, confirmation bias, and FOMO can encourage investors to rely on subjective beliefs, popular market trends, or emotional responses rather than systematic risk assessment. In contrast, investment experience positively contributes to financial risk tolerance and portfolio diversification. Repeated participation in capital markets provides practical learning opportunities that help investors understand volatility, evaluate alternative instruments, and respond more appropriately to changing market conditions. These findings demonstrate that portfolio diversification cannot be understood solely as a rational financial decision based on expected risk and return. Psychological characteristics and accumulated investment experience also determine how investors perceive opportunities, tolerate uncertainty, and ultimately structure their investment portfolios.

Financial risk tolerance emerges as an important psychological mechanism connecting behavioral bias and investment experience with portfolio diversification. The results indicate that financial risk tolerance positively contributes to diversification and partially mediates the relationships between the two investor characteristics and portfolio outcomes. Investors who are more capable of tolerating uncertainty, volatility, and temporary losses have greater flexibility to allocate funds across instruments with different risk-return profiles. Conversely, distorted risk perceptions arising from behavioral biases may reduce the effectiveness of diversification, while accumulated investment experience can strengthen risk management and encourage more balanced portfolio allocation. The explanatory capability of the structural model further demonstrates that behavioral bias, investment experience, and financial risk tolerance collectively provide a meaningful explanation of differences in portfolio diversification. Overall, the findings integrate behavioral and conventional financial perspectives by demonstrating that effective diversification depends not only on access to investment alternatives but also on investors' psychological discipline, practical market experience, and capacity to manage financial risk.

Retail investors should strengthen their awareness of behavioral tendencies when constructing and adjusting investment portfolios. Recognizing overconfidence, herding, loss aversion, confirmation bias, and FOMO can help investors distinguish evidence-based investment decisions from reactions driven primarily by emotions or market trends. Investors should also use accumulated investment experience as a source of reflective learning rather than allowing successful past decisions to generate excessive confidence. Investor education programs should consequently extend beyond conventional financial literacy by incorporating behavioral-bias awareness, risk-profile assessment, and practical portfolio diversification skills. Particular attention should be given to digital investment environments because rapid

information flows and instant trading facilities may encourage impulsive responses to short-term market movements. Investors should critically evaluate financial information obtained through social media, online communities, and influencers by comparing it with credible financial information and their individual investment objectives. These measures can support more disciplined investment behavior and encourage portfolio construction based on appropriate risk management rather than temporary market sentiment.

Digital investment platforms and capital market institutions should provide decision-support features that help investors understand risk and diversification rather than functioning solely as transaction facilitators. Platforms could integrate risk-profile assessments, portfolio concentration indicators, diversification alerts, and educational information that allows users to identify excessive exposure to particular instruments or sectors. Behavioral interventions could also be incorporated to reduce impulsive transactions triggered by extreme market movements or trending investment information. For future research, the proposed model can be extended by examining digital financial literacy, social media exposure, trust in influencers, and the use of AI-based investment advice as additional determinants of investor behavior. Algorithmic recommendations are particularly relevant because personalized financial information may improve decision quality while potentially reinforcing existing preferences and behavioral biases. Future studies may also compare investors across generations, levels of experience, market conditions, or investment platforms and employ longitudinal designs to determine whether changes in experience and risk tolerance produce corresponding changes in diversification behavior over time.

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