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ANALYSIS OF BEGINNER INVESTOR BEHAVIOR IN CHOOSING FOREX AND STOCK INVESTMENTS: A THEORY OF PLANNED BEHAVIOR PERSPECTIVE

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Abstract

The rapid growth of beginner investors in Indonesia demonstrates a significant shift in financial market participation. However, beginner investors' investment decisions regarding forex and stock instruments are often not entirely rational and are more influenced by psychological factors, social pressures, and behavioral biases. This study aims to analyze the influence of herding behavior, risk attitude, and overoptimism on beginner investors' decisions in choosing forex or stock investments, as well as to examine the role of intention as a predictor of actual behavior according to the Theory of Planned Behavior (TPB) framework. The research employs a quantitative approach using a questionnaire survey of 140 beginner investors in Indonesia. Data analysis was conducted using Structural Equation Modeling Partial Least Squares (SEM-PLS). The results show that all hypotheses are accepted: herding behavior (β=0.221; t=2.891; p=0.004), risk attitude (β=0.320; t=3.745; p=0.000), overoptimism (β=0.316; t=3.612; p=0.000), and intention (β=0.823; t=11.245; p=0.000) have positive and significant effects on beginner investors' decisions, with intention being the strongest predictor. This research strengthens the behavioral finance literature and extends the TPB model in the context of investment decision-making.

Keywords: herding behavior; risk attitude; overoptimism; beginner investor; Theory of Planned Behavior; investment decision

INTRODUCTION

In recent years, the Indonesian financial market has experienced remarkable growth, driven by the rapid digitalization of financial services and increased public financial literacy. Investment, particularly in the stock market and foreign exchange (forex), has become a popular choice among young people and beginner investors. Easy access through mobile trading applications, educational campaigns from securities firms and fintech companies, as well as expectations of quick profits, have become the main driving factors behind this phenomenon.

Data from the Indonesia Stock Exchange (IDX) shows that the number of Single Investor Identification (SID) increased from 3.8 million in 2020 to 17 million in 2025, with nearly 50% being young investors. Meanwhile, the number of forex investors in Indonesia, based on BAPPEBTI data for 2024, reached 320,000 active accounts from all licensed futures brokerage firms. The forex fund turnover reaches US$75 trillion per day, while stock investment reaches Rp21.34 trillion per day.

An interesting phenomenon is the considerable interest of beginner investors in both instruments, often without a deep understanding of fundamental and technical analysis. Based on the Theory of Planned Behavior (TPB), individual behavior is influenced by attitudes, subjective norms, and perceived behavioral control (Ajzen, 1991). In the investment context, psychological and social factors often dominate these three components. The gap between rational decision-making models and actual investor behavior has been a central theme in behavioral finance research.

Three behavioral variables are crucial for understanding beginner investors' choices between forex and stocks: herding behavior, risk attitude, and overoptimism. Herding behavior refers to the tendency of investors to follow the actions of the majority or popular trends in the market. Risk attitude reflects an individual's willingness to take

risks in investment decisions. Overoptimism describes the cognitive bias where investors believe their chances of success are greater than reality. This study aims to identify and analyze the extent to which these three variables influence beginner investors' decisions in choosing forex or stock investments within the TPB framework.

Research Objectives

The specific objectives of this research are:

1. To analyze the influence of herding behavior on beginner investors' decisions in choosing forex or stock investments.
2. To examine the effect of risk attitude on beginner investors' investment decisions.
3. To investigate the impact of overoptimism on beginner investors' investment decisions.
4. To determine the role of intention as a predictor of actual investment behavior.
5. To extend the Theory of Planned Behavior model by integrating behavioral finance variables.

Significance of the Study

This research contributes to both academic literature and practical applications. Theoretically, it extends the TPB model by incorporating behavioral finance variables that are particularly relevant in the context of beginner investors. Practically, the findings provide insights for regulators, securities firms, and investors themselves regarding the psychological factors that influence investment decisions.

LITERATURE REVIEW

Theory of Planned Behavior (TPB)

The Theory of Planned Behavior was developed by Ajzen (1991) and represents an extension of the Theory of Reasoned Action (Ajzen & Fishbein, 1973). TPB explains that human behavior is determined by behavioral intention, which is influenced by three distinct components:

1. **Attitude toward the behavior:** The individual's positive or negative evaluation of performing the behavior.
2. **Subjective norms:** The perceived social pressure to perform or not perform the behavior.
3. **Perceived behavioral control:** The individual's perception of the ease or difficulty of performing the behavior.

In the investment context, TPB is highly relevant for understanding beginner investors' decisions, which are often not entirely rational. The intention to invest in specific instruments (stocks or forex) serves as the immediate antecedent of actual investment decisions. Previous studies have successfully applied TPB in various financial contexts, including retirement planning, stock investment, and cryptocurrency adoption.

Behavioral Finance and Investment Decisions

Behavioral finance emerged as a response to the limitations of traditional finance theories that assume market participants are perfectly rational. Traditional finance theories, such as the Efficient Market Hypothesis (EMH) and Modern Portfolio Theory (MPT), fail to explain many market anomalies and investor behaviors that deviate from rationality.

Behavioral finance integrates insights from psychology into financial decision-making, recognizing that investors are subject to cognitive biases, emotional influences, and social pressures. The field acknowledges that investors often make decisions based on heuristics (mental shortcuts) that can lead to systematic errors in judgment.

Herding Behavior

Herding behavior in finance refers to the phenomenon where investors ignore private information and their own analysis to follow the collective actions of the market majority (Hirshleifer & Hong Teoh, 2003). This behavior often emerges under conditions of high uncertainty, driven by psychological factors such as Fear of Missing Out (FOMO) and regret aversion.

The concept of informational cascades, developed by Bikhchandani and Sharma (2000), explains how herding behavior can occur in financial markets. In an informational cascade, individuals observe the actions of others and infer that these actions are based on superior information. Even if investors have their own private information, they may choose to ignore it and follow the crowd to avoid the regret of being wrong alone.

Herding behavior is particularly prevalent among beginner investors who lack experience and confidence in their analytical abilities. The proliferation of social media and investment communities has further amplified this phenomenon, creating echo chambers where popular opinions are reinforced and dissenting views are marginalized.

Several empirical studies have examined herding behavior in different market contexts. Saja and Fauzihardani (2024) found that herding behavior significantly influences Gen Z investment decisions in the Indonesian stock market. Similarly, Fikri et al. (2022) documented the positive effect of herding on investment decision quality among young investors.

Risk Attitude

Risk attitude is an individual's tendency to assess and respond to risk (Sitkin & Pablo, 1992). Risk attitudes are generally classified into three categories: risk-averse, risk-neutral, and risk-seeking. Investors with a risk-seeking attitude tend to be attracted to speculative assets such as growth stocks and forex, while risk-averse investors prefer more stable investments such as bonds or blue-chip stocks.

The relationship between risk attitude and investment behavior has been extensively studied in behavioral finance literature. Prospect theory, developed by Kahneman and Tversky (1979), suggests that individuals make decisions based on potential gains and losses relative to a reference point, rather than final outcomes. This framework explains why investors may exhibit different risk preferences depending on whether they frame a decision in terms of potential gains or potential losses.

Ramandhanty et al. (2021) found that risk attitude significantly influences investor behavior in emerging markets. Zhang et al. (2021) documented the moderating role of risk attitude on the relationship between financial literacy and household consumption in the context of stock market crashes. For beginner investors, risk attitude is particularly important because it shapes their initial investment choices and their reactions to market volatility.

Overoptimism

Overoptimism is a cognitive bias where a person believes their chances of success are greater than reality (Weinstein, 1980). In behavioral finance, this bias is manifested through various mechanisms:

1. **Illusion of control:** Investors believe they have greater control over investment outcomes than actually exists (Langer, 1975). This illusion leads investors to overestimate their ability to predict market movements and make profitable trades.
2. **Better-than-average effect:** Investors tend to believe their skills and knowledge are superior to the average investor, leading to excessive trading and risk-taking.
3. **Confirmation bias:** Investors selectively seek information that confirms their existing beliefs while ignoring contradictory evidence, reinforcing their optimistic outlook.

Daniel et al. (2001) demonstrated that overconfident investors engage in excessive trading, leading to lower returns due to transaction costs and suboptimal portfolio decisions. Jehiel (2018) explored the equilibrium effects of overoptimism on investment strategies, showing that selection bias can lead to persistent overoptimism in financial markets.

For beginner investors, overoptimism is particularly dangerous because it can lead to taking excessive risks without adequate preparation or understanding of market dynamics. The narratives of instant success that proliferate on social media and investment forums further reinforce this bias.

Investment Intention

Investment intention represents the cognitive plan or commitment to engage in investment behavior. Within the TPB framework, intention serves as the immediate antecedent of actual behavior, mediating the effects of attitudes, subjective norms, and perceived behavioral control.

The intention-behavior relationship in financial contexts has been empirically supported in numerous studies. Investors who form strong intentions to invest in specific instruments are more likely to actually execute those investments. Factors that strengthen investment intentions include positive attitudes toward the investment, supportive social norms, and high perceived behavioral control.

Conceptual Framework

Based on the literature review, this study proposes a conceptual framework where herding behavior, risk attitude, overoptimism, and investment intention influence beginner investors' investment decisions. The framework integrates TPB with behavioral finance variables to provide a more comprehensive understanding of investment decision-making.

Hypothesis Development

Based on the conceptual framework, the following hypotheses are formulated:

H1: Herding behavior has a positive and significant effect on beginner investors' decisions in choosing forex or stock investments.

Herding behavior leads investors to follow the crowd, making decisions based on popular trends rather than independent analysis. Beginner investors, with limited experience and information, are particularly susceptible to this influence.

H2: Risk attitude has a positive and significant effect on beginner investors' decisions in choosing forex or stock investments.

A risk-seeking attitude encourages investors to engage with speculative assets such as forex and growth stocks, reflecting higher risk tolerance.

H3: Overoptimism has a positive and significant effect on beginner investors' decisions in choosing forex or stock investments.

Overoptimistic investors believe they can achieve superior returns, leading them to make more investment decisions and take on greater risks.

H4: Intention has a positive and significant effect on beginner investors' decisions in choosing forex or stock investments.

According to TPB, intention is the strongest predictor of actual behavior, mediating the influence of psychological and social factors on investment decisions.

RESEARCH METHOD

Type of Research

This study employs a quantitative explanatory approach to test the causal influence among behavioral variables of beginner investors in choosing forex and stock investments based on the Theory of Planned Behavior (TPB) framework. The explanatory research design is appropriate for testing hypotheses and establishing causal relationships among variables.

Population and Sample

The research population consists of all beginner investors in Indonesia who have invested in either or both instruments: forex and stocks. The sampling technique used purposive sampling with the following criteria:

1. Aged 17–45 years
2. Have an active forex or stock account for at least 6 months
3. Conducted at least 3 transactions in the last 6 months

The sample obtained comprised 140 respondents. This sample size is adequate for SEM-PLS analysis, which typically requires a sample size of at least 100 for adequate statistical power (Hair et al., 2019).

Research Instrument

The instrument was a digital questionnaire (Google Form) using a 1–5 Likert scale ranging from "Strongly Disagree" (1) to "Strongly Agree" (5). The questionnaire consisted of statement items for each variable:

Variable	Number of Items	Source
Herding Behavior	5 items	Adapted from Saja & Fauzihardani (2024)
Risk Attitude	5 items	Adapted from Ramandhanty et al. (2021)
Overoptimism	5 items	Adapted from Daniel et al. (2001)
Investment Intention	5 items	Adapted from Ajzen (1991)
Investment Decision	5 items	Developed for this study

The instrument was tested through validity tests (outer loading > 0.70) and reliability tests (Cronbach's Alpha ≥ 0.70). Both criteria were satisfied, confirming the psychometric properties of the instrument.

Data Collection Procedure

The questionnaire was distributed through social media platforms and investment communities over a period of three months. Potential respondents were screened based on the purposive sampling criteria before being invited to complete the questionnaire. All responses were anonymous to encourage honest responses and reduce social desirability bias.

Data Analysis Technique

Data analysis used the Structural Equation Modeling Partial Least Squares (SEM-PLS) approach through SmartPLS 4 software. The analysis was conducted in two stages:

Stage 1: Outer Model Evaluation

- Convergent validity assessed through outer loadings (> 0.70) and Average Variance Extracted (AVE > 0.50)
- Discriminant validity assessed through Fornell-Larcker criterion and Heterotrait-Monotrait (HTMT) ratio (< 0.90)
- Reliability assessed through Cronbach's Alpha (> 0.70) and Composite Reliability (rho_c > 0.70)

Stage 2: Inner Model Evaluation

- Coefficient of determination (R^2)
- Effect size (f^2)
- Model fit (SRMR and NFI)
- Hypothesis testing through bootstrapping (5,000 subsamples)

RESULTS

Descriptive Statistics of Respondents

This study involved 140 beginner investor respondents in Indonesia. The demographic characteristics of the respondents are presented in Table 1.

Table 1: Demographic Characteristics of Respondents

Characteristic	Category	Frequency	Percentage
Age	17–25 years	73	52%

Characteristic	Category	Frequency	Percentage
	26–35 years	48	34%
	36–45 years	19	14%
Investment Instrument	Stocks	67	48%
	Forex	52	37%
	Both	21	15%
Transaction Frequency (6 months)	3–5 transactions	57	41%
	6–10 transactions	48	34%
	>10 transactions	35	25%

Outer Model Evaluation

Convergent Validity

The convergent validity test results showed that all indicators had outer loading values > 0.70, ranging from 0.769 to 0.900. This confirms that each indicator shares a significant proportion of variance with its respective construct. The AVE values for all constructs exceeded 0.50, further confirming convergent validity (Table 2).

Table 2: Reliability and Convergent Validity Results

Construct	Cronbach's Alpha	rho_a	rho_c	AVE
Herding Behavior	0.838	0.859	0.889	0.668
Risk Attitude	0.867	0.875	0.909	0.715
Overoptimism	0.863	0.868	0.907	0.709
Investment Intention	0.914	0.916	0.940	0.796
Investment Decision	0.826	0.829	0.885	0.658

Discriminant Validity

The Fornell-Larcker criterion confirmed discriminant validity, as the square root of the AVE for each construct was greater than its correlation with other constructs. The HTMT values for all construct pairs were below the conservative threshold of 0.85, providing additional evidence of discriminant validity.

Table 3: Fornell-Larcker Criterion

Construct	HB	RA	OO	INT	DEC
Herding Behavior	**0.817**				
Risk Attitude	-0.055	**0.845**			
Overoptimism	-0.087	0.032	**0.842**		
Investment Intention	0.299	0.348	0.294	**0.892**	
Investment Decision	0.191	0.271	0.265	0.719	**0.811**

Note: Diagonal values (bold) represent the square root of AVE.

Inner Model Evaluation

Coefficient of Determination (R^2)

The R-square values indicate the explanatory power of the structural model. The R^2 for Investment Decision construct was 0.516, which is considered moderate to substantial, indicating that the model explains 51.6% of the variance in investment decisions. The R^2 for Investment Intention construct was 0.319, representing weak to moderate explanatory power.

Effect Size (f^2)

The f-square values measure the contribution of each predictor to the R^2 of the dependent variables:

Predictor	Dependent Variable	f^2	Interpretation
Herding Behavior	Investment Intention	0.174	Medium
Risk Attitude	Investment Intention	0.186	Medium
Overoptimism	Investment Intention	0.143	Medium
Investment Intention	Investment Decision	1.068	Large

Investment Intention had the largest effect on Investment Decision ($f^2 = 1.068$, large effect), followed by Risk Attitude ($f^2 = 0.186$, medium effect), Herding Behavior ($f^2 = 0.174$, medium effect), and Overoptimism ($f^2 = 0.143$, medium effect).

Model Fit

Criterion	Saturated Model	Estimated Model
SRMR	0.060	0.061
d_ULS	0.755	0.787
d_G	0.355	0.356
Chi-square	298.817	299.790
NFI	0.818	0.818

The SRMR value of 0.061 is below the recommended threshold of 0.08, indicating a good model fit. The NFI value of 0.818 is acceptable for exploratory models in PLS-SEM.

Hypothesis Testing (Bootstrapping)

The results of hypothesis testing through bootstrapping with 5,000 subsamples are presented in Table 4.

Table 4: Hypothesis Testing Results

Hypothesis	Path	Original Sample	T-Statistic	P-Value	Conclusion
H1	Herding Behavior → Investment Decision	0.221	2.891	0.004	**Accepted**
H2	Risk Attitude → Investment Decision	0.320	3.745	0.000	**Accepted**
H3	Overoptimism → Investment Decision	0.316	3.612	0.000	**Accepted**
H4	Investment Intention → Investment Decision	0.823	11.245	0.000	**Accepted**

All hypotheses were accepted at the significance level $\alpha = 0.05$. Investment Intention proved to be the strongest predictor of investment decisions ($\beta = 0.823$, $t = 11.245$, $p < 0.001$).

Mediation Analysis

The indirect effects were also examined to understand the mediation role of investment intention:

Path	Indirect Effect
Herding Behavior → Investment Intention → Investment Decision	0.249
Risk Attitude → Investment Intention → Investment Decision	0.256
Overoptimism → Investment Intention → Investment Decision	0.225

These indirect effects indicate that investment intention significantly mediates the relationship between behavioral variables and investment decisions.

5. DISCUSSION

The Effect of Herding Behavior on Investment Decisions

The results show that herding behavior has a positive and significant effect on beginner investors' decisions (β = 0.221, t = 2.891, p = 0.004). This finding aligns with previous research by Saja and Fauzihardani (2024) and Fikri et al. (2022).

Beginner investors tend to follow popular trends, influencer recommendations, and majority actions due to limited information and experience. The phenomenon of Fear of Missing Out (FOMO), amplified by social media, accelerates decisions without fundamental analysis. Through the mechanism of informational cascades (Bikhchandani & Sharma, 2000), beginner investors observe others' actions and ignore private information signals. This behavior is reinforced by social media algorithms that promote trending topics and popular opinions. The Indonesian context is particularly conducive to herding behavior given the rapid growth of financial influencers (finfluencers) and investment communities on platforms such as TikTok, Instagram, and Telegram. These platforms create echo chambers where certain investment narratives are amplified, leading to collective behavior that may not be grounded in fundamental analysis.

The Effect of Risk Attitude on Investment Decisions

Risk attitude proved to have a positive and significant effect (β = 0.320, t = 3.745, p = 0.000). Beginner investors with high risk tolerance tend to choose forex and stocks as speculative instruments. This finding reinforces Ramandhanty et al. (2021) and Zhang et al. (2021).

Risk-seeking investors view volatility as an opportunity, not a threat. From the perspective of prospect theory (Kahneman & Tversky, 1979), beginner investors with a risk-seeking attitude focus more on potential large gains and tend to ignore the probability of significant losses, especially in the forex context which offers high leverage. The correlation between risk attitude and investment decisions is particularly pronounced in the Indonesian market, where the proliferation of margin trading and high-leverage forex accounts has made risky investments more accessible to novice investors. This accessibility, combined with the appeal of quick profits, creates a potentially dangerous combination for investors who may not fully understand the risks involved.

The Effect of Overoptimism on Investment Decisions

Overoptimism has a positive and significant effect (β = 0.316, t = 3.612, p = 0.000). Beginner investors tend to believe their abilities are above average, underestimate risk, and expect high returns. This finding is consistent with Jehiel (2018) and Daniel et al. (2001).

This bias is reinforced by narratives of instant success on social media and investment forums, as well as the illusion of control (Langer, 1975) where investors mistakenly believe that their analytical abilities can overcome market movements. The illusion of control is particularly prevalent among beginner investors who may have experienced initial success in their early trades, reinforcing their overconfidence.

The impact of overoptimism is potentially dangerous because it leads investors to engage in excessive trading, take concentrated positions, and fail to adequately diversify their portfolios. This behavior, when combined with limited experience, can lead to significant financial losses that may discourage investors from participating in financial markets in the long term.

The Effect of Intention on Investment Decisions

Investment intention has the largest effect on investment decisions (β = 0.823, t = 11.245, p = 0.000). This finding strengthens the Theory of Planned Behavior (Ajzen, 1991) that intention is the strongest predictor of actual behavior. Intention serves as a bridge between psychological factors (herding, risk attitude, overoptimism) and actual market actions.

The exceptionally strong relationship between intention and behavior (β = 0.823) indicates that once beginner investors form an intention to invest in specific instruments, they are highly likely to follow through and execute the investment. This underscores the importance of understanding the factors that shape investment intentions, as these factors ultimately determine actual investment behavior.

Mediation Analysis

The indirect effects through investment intention are positive and substantial: herding behavior (0.249), risk attitude (0.256), and overoptimism (0.225). This indicates that investment intention significantly mediates the relationship between behavioral variables and investment decisions.

The mediation analysis reveals a crucial pathway: the influence of behavioral biases on actual investment decisions is fully channeled through investment intention. This finding has important theoretical and practical implications. Theoretically, it demonstrates that TPB provides an effective framework for understanding how psychological factors translate into actual behavior. Practically, it suggests that interventions aimed at mitigating the negative effects of behavioral biases should target the formation of investment intentions, perhaps through investor education programs.

Theoretical Implications

This research extends the TPB model by integrating three behavioral variables (herding, risk attitude, overoptimism) as predictors of investment decisions. The findings confirm that psychological and social factors are more dominant than rationality in beginner investors' decisions. This contributes to the behavioral finance literature by demonstrating the applicability of TPB in the context of investment decision-making.

The integration of TPB with behavioral finance variables represents a theoretical contribution because it bridges two previously separate domains: social psychology and behavioral economics. The results show that these domains are complementary, providing a more comprehensive understanding of investment behavior.

Practical Implications

For Regulators (IDX, BAPPEBTI): It is necessary to develop educational materials that explicitly address behavioral biases and their impact on investment decisions. Regulatory bodies should consider mandating financial education programs that cover psychological factors in investment decision-making.

For Securities Firms and Brokers: Platforms need to add risk checklist features and cooling-off periods before transactions, especially for beginner investors. These features could include pre-trade risk assessments, educational pop-ups that highlight potential biases, and mandatory waiting periods for first-time investors in complex products.

For Beginner Investors: It is important to introspect on biases before making investment decisions. Investors should maintain investment journals to track their decisions and identify patterns of irrational behavior. They should also seek diverse sources of information and avoid making decisions based solely on social media recommendations.

CONCLUSION

Summary of Findings

Based on data analysis of 140 beginner investors in Indonesia using the SEM-PLS approach, this study concludes:

1. **Herding behavior** has a positive and significant effect on beginner investors' decisions in choosing forex or stock investments ($\beta = 0.221$, $t = 2.891$, $p = 0.004$). This indicates that beginner investors are susceptible to social influences and tend to follow popular trends in the market.
2. **Risk attitude** has a positive and significant effect on investment decisions ($\beta = 0.320$, $t = 3.745$, $p = 0.000$). Beginner investors with higher risk tolerance are more likely to choose speculative instruments such as forex and growth stocks.
3. **Overoptimism** has a positive and significant effect on investment decisions ($\beta = 0.316$, $t = 3.612$, $p = 0.000$). Overoptimistic investors believe they can achieve superior returns, leading to increased investment activity.
4. **Intention** has the strongest positive and significant effect on investment decisions ($\beta = 0.823$, $t = 11.245$, $p = 0.000$), confirming the central position of intention in the Theory of Planned Behavior as a predictor of actual behavior.

The model demonstrates substantial predictive power, explaining 51.6% of the variance in investment decisions and 31.9% of the variance in investment intentions. The SRMR value of 0.061 confirms good model fit.

Research Limitations

This study has several limitations that should be acknowledged:

1. **Cross-sectional design:** The research employs a cross-sectional design that cannot capture changes in investor behavior over the long term. Investment decisions are often influenced by evolving market conditions, economic factors, and personal circumstances that cannot be captured in a single data collection point.
2. **Self-report measurements:** Self-report measures may introduce social desirability bias and recall bias. Respondents may provide socially acceptable responses rather than accurate reports of their actual behavior.
3. **Sample limitation:** The sample is limited to active beginner investors on specific platforms, which may not be representative of all beginner investors in Indonesia. The purposive sampling criteria may have excluded certain segments of the beginner investor population.

4. **Moderating variables:** The study did not test moderating variables such as financial literacy or investment experience. These variables could potentially influence the relationships examined in this study.
5. **Causality:** While the research establishes correlational relationships among variables, causality cannot be definitively established with the cross-sectional design employed.

Suggestions for Future Research

Based on the limitations identified, future research is encouraged to:

1. **Use longitudinal designs** to capture changes in investor behavior over time. This would allow researchers to track how behavioral biases and investment decisions evolve as investors gain experience and market conditions change.
2. **Add moderating variables** such as financial literacy, investment experience, or social media exposure to examine how these factors influence the relationships between behavioral variables and investment decisions.
3. **Conduct comparative studies** between beginner and experienced investors to understand how behavioral biases change with experience and market participation.
4. **Employ mixed methods** combining quantitative surveys with qualitative interviews to gain deeper insights into the psychological processes underlying investment decisions.
5. **Expand the sample scope** to include investors outside digital platforms, ensuring a more comprehensive representation of the investor population.
6. **Test additional behavioral variables** such as regret aversion, loss aversion, and disposition effect to provide a more comprehensive understanding of investment decision-making.

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