

How Financial Literacy Influences Gen Z Investment Decisions through Attitude and Overconfidence

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Abstract:

In this competitive and dynamic era, the financial industry presents new opportunities and challenges. Especially in the investment sector, which has been booming since the Covid-19 pandemic, people are competing to maximize profits in the capital market with minimal risk. To maximize profits, a combination of financial knowledge and appropriate behavior is needed to grow a portfolio. The increasing participation of Generation Z in the capital market, driven by easy access to digital investment platforms, highlights the importance of financial management education. Such education is essential to help Gen Z manage risk, avoid overconfidence, and make informed investment decisions in an uncertain and technology-driven financial environment. This study aims to examine how overconfidence and financial literacy influence investment decisions. This study involved Gen Z, a generation known for their apathy and dominance in the capital market. The sample size for this study reached 385 respondents. Data collection was conducted using Google Forms. This study tested the coefficient of determination, standard deviation, and data reliability using Cronbach's alpha. Data analysis was performed using SEM (Structural Equation Modeling) with the SmartPLS 4.0 application. The results of the study show that financial literacy has a significant positive effect on investment decisions, attitude has a significant positive effect on investment decisions, overconfidence has a significant positive effect on investment decisions, financial literacy has a significant positive effect on attitude, financial literacy has a significant positive effect on overconfidence, financial literacy has a significant positive effect on investment decisions through attitude mediation, and financial literacy has a significant positive effect on investment decisions through overconfidence mediation.

Keywords: Attitude; Financial Literacy; Investment Decisions; Overconfidence

Introduction

In an increasingly volatile and technology-driven capital market, investment decisions are no longer made solely by experienced investors but increasingly by younger generations, particularly Generation Z (Dźwigoł, 2021). Economic uncertainty and rapid market fluctuations heighten the risk of suboptimal investment decisions, making financial literacy a critical foundation for informed participation (Nguyen *et al.*, 2022; Hafidzi *et al.*, 2023). This widespread attention to the capital market demonstrates a shift in investment participation and broader engagement, implying that the impact of suboptimal investment decisions is no longer limited to a small group but can have broad social and economic consequences (Che

Hassan *et al.*, 2023). In Indonesia, the growing dominance of Generation Z in the capital market underscores the urgency of understanding the behavioral mechanisms underlying their investment decisions.

Technological advancements have expanded access to real-time financial information and investment platforms, lowering entry barriers for novice investors (Dakalbab *et al.*, 2024). However, this accessibility may also encourage impulsive decision-making and excessive self-confidence when financial knowledge is insufficient or improperly applied (Król & Zdonek, 2023; Rizwan *et al.*, 2025). As a result, investment behavior is shaped not only by financial literacy but also by individual attitudes and psychological biases such as overconfidence. Supporting this concern, data from the US National Association of Plan Advisors (NAPA) show that Generation Z scores only 28% on financial literacy assessments. These characteristics challenge the assumption that increased market participation and information access necessarily lead to rational investment behavior. Recent data from the Financial Services Authority indicate that more than 55% of Indonesia's active investors are under the age of 30. In Indonesia, Generation Z, defined as individuals born between 1997 and 2012, now dominates capital market participation (Mahapatra *et al.*, 2022). Although prior studies consistently show that financial literacy improves investment decision quality, evidence remains inconclusive regarding how financial literacy translates into actual decisions through attitudinal factors and overconfidence, particularly among Generation Z investors. Existing research tends to examine these in isolation, leaving limited understanding of their interactive roles within a technology-intensive investment environment.

Accordingly, this study contributes to the literature by empirically examining the behavioral mechanisms through which financial literacy shapes investment decisions among Generation Z investors. Specifically, it integrates investment attitude and overconfidence as mediating variables to clarify how financial knowledge is translated into actual decision-making within a technology-intensive capital market. By focusing on Generation Z in the Indonesian context—where young investors dominate market participation—this study extends existing investment behavior research beyond direct-effect models and offers nuanced insights into the dual role of cognitive and psychological factors. The findings are expected to inform the design of more effective financial education and investor protection policies aimed at promoting sustainable and prudent investment behavior among young investors.

Literature Study

Financial literacy (FL) has been widely recognized as a key determinant of investment decision-making, as it equips individuals with the ability to understand financial information, evaluate risk–return trade-offs, and interpret macroeconomic and geopolitical conditions (Olsson, 2023; Maheshwari *et al.*, 2025). Empirical studies consistently report that financially literate investors demonstrate superior portfolio selection, more realistic return expectations, and greater long-term investment sustainability (Maheshwari *et al.*, 2025). This stream of literature predominantly frames financial literacy as a protective and rationalizing force that enhances decision quality. However, this predominantly positive portrayal overlooks an important behavioral tension. Emerging behavioral finance studies suggest that increased financial knowledge does not always translate into better outcomes, as it may also foster overconfidence, particularly among less experienced investors. Financially literate individuals may overestimate their analytical capabilities, underestimate market risks, and engage in excessive trading or risk-taking, thereby weakening the assumed linear relationship between financial literacy and sound investment decisions (Shunmugasundaram & Sinha, 2024). Despite this recognition, prior research has largely examined financial literacy and overconfidence as separate constructs, offering limited insight into how financial knowledge may simultaneously reduce errors while amplifying behavioral biases. Although this cohort

benefits from unprecedented access to financial information, empirical evidence indicates persistently low levels of financial literacy alongside high self-confidence (Patrisia *et al.*, 2023; Hong Shan *et al.*, 2023).

Accordingly, the relationship between financial literacy and investment decisions among Generation Z cannot be assumed to be uniformly positive or linear. Existing studies tend to emphasize the direct effect of financial literacy on investment decisions, while giving insufficient attention to the behavioral mechanisms through which financial knowledge is translated into action. This creates a critical gap in understanding how financial literacy may shape investment behavior indirectly through psychological biases such as overconfidence, particularly within younger investor cohorts.

Overconfidence (OV) is one of the most robustly documented behavioral biases in investment research, referring to investors' tendency to overestimate their knowledge and underestimate risk, often resulting in suboptimal portfolio choices and misaligned risk exposure (Jiang *et al.*, 2024). At the same time, investor attitudes, formed through learning, experience, and perceived competence, play a crucial role in shaping how financial information is processed and acted upon (Adil *et al.*, 2021; Che Hassan *et al.*, 2023). Repeated investment behavior reinforces these attitudes, potentially amplifying confidence and risk-taking tendencies over time. Mahapatra *et al.*, (2022) dan Ainiyah *et al.*, (2024) said that investors in Indonesia are mostly dominated by Generation Z, born between 1997 and 2012. Patrisia *et al.* (2023) known as a generation that tends to be "quite indifferent" to their surroundings and a combination of minimal financial literacy and financial understanding coupled with high levels of self-confidence, (Hong Shan *et al.*, 2023) especially in Generation Z The US National Association of Plan Advisors (NAPA), Gen Z has very low financial literacy with only 28% of the total questions given (Hong Shan *et al.*, 2023).

The Theory of Planned Behavior (TPB) provides a useful framework for integrating these insights by explaining how attitudes and self-perceptions influence behavioral intentions and, ultimately, investment decisions (Sobaih & Elshaer, 2023). While TPB has been widely applied in financial behavior research, most studies treat overconfidence as a direct antecedent of investment decisions, rather than as a behavioral outcome shaped by financial literacy and attitudes. As a result, the interactive and mediating roles of attitude and overconfidence remain underexplored. This study addresses these gaps by positioning financial literacy not only as a cognitive resource but also as a factor that shapes investment attitudes and overconfidence, which in turn influence investment decisions. By integrating financial literacy, attitude, and overconfidence within a TPB-informed framework and focusing on Generation Z investors in Indonesia, this study advances existing literature beyond descriptive and direct-effect models, offering a more nuanced explanation of how young investors translate knowledge into behavior in a technology-intensive market environment.

Research methods

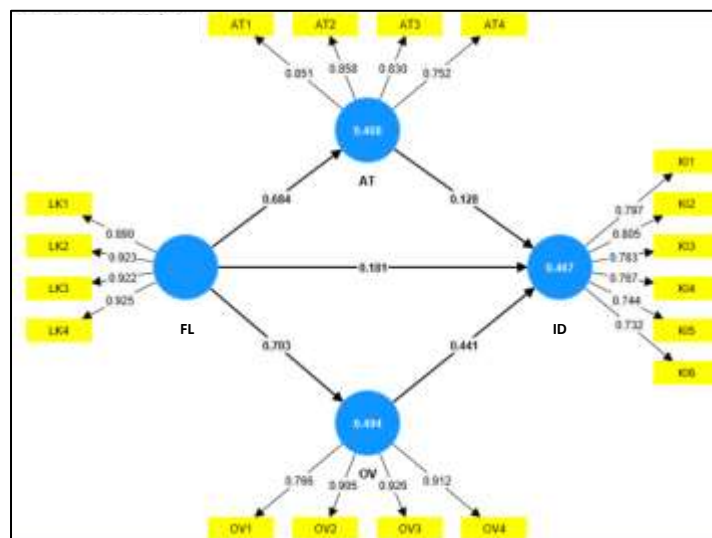
This study employed descriptive quantitative research. The purpose of descriptive quantitative research is to explain or describe a phenomenon that has been analyzed, which can then lead to conclusions from the data. Respondents for this study were collected through a survey using a questionnaire distributed through Google Forms. Data analysis was performed using SEM (Structural Equation Modeling) techniques, using Partial Least Square (PLS) software. The sample distribution was limited to Gen Z in Surabaya who had invested in legal and available instruments. This study processed measurements using supporting software, namely Smart PLS 4.0 as an outer model. The population size is infinite or cannot be calculated because there is no valid information regarding the Gen Z population and the number of investors in Surabaya.

Results

Table 1. Statistical Description of Respondents

Categories	Details	Amount	Percentage (%)
Gender	Men	188	48.90%
	Women	197	51.10%
Age	17	14	3.70%
	18-22	204	53.10%
	23-28	167	43.20%
Background	Senior High School	26	6.70%
	College Student	190	49.10%
	Government Employees	53	13.80%
	Private Employees	98	25.40%
	Investor	10	2.70%
	Trader	8	2.20%
Monthly expenditure level	0 - 1.000.000	47	12.30%
	1.000.001 - 2.000.000	123	31.90%
	2.000.001 - 3.000.000	110	28.40%
	3.000.001 - 4.000.000	65	17%
	> 4.000.000	40	10.40%
Investment Experience	Yes	363	94.30%
	No	22	5.70%
Investment Instruments	Stock	212	52.30%
	Crypto	134	33.10%
	Forex	38	9.40%
	Mutual Funds	151	37.80%
	Gold	157	38.80%
	Obligation	56	13.80%
	Bonds	1	0.20%
	Counter Strike Skin	1	0.20%
	None	3	0.60%

Source: data processed, 2025



Picture 1. Research Model

Source: data processed, 2025

Table 2. Reliability Test Results

Variables	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
AT	0.842	0.856	0.984	0.679
ID	0.864	0.864	0.898	0.596
FL	0.935	0.935	0.954	0.837
OV	0.901	0.916	0.931	0.774

Source: data processed, 2025

The results of the reliability test indicate that all variables in this study have Cronbach's Alpha values. All instruments are considered reliable because their values are greater than 0.60. All reliability values demonstrate that the instruments used can be trusted to measure these variables.

Table 3. Coefficient of Determination Test Results

Variables	R-Square	R-square adjusted
AT	0.468	0.467
OV	0.494	0.493
ID	0.467	0.463

Source: data processed, 2025

Table 3 shows that the overconfidence variable has the largest R-square value (0.493). This value indicates that this factor has a high influence compared to other factors. Conversely, investment decisions have the lowest R-square value (0.467), meaning that 46.7% of the variation can be explained by related factors. The Adjusted R-square figure shows a value of 0.463 for the investment decision variable. This means that 46.3% of the variation in this variable can be explained by independent factors, while 54.7% is explained by other factors not included in the model.

Table 4. T-Statistic Test Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ((O/STDEV))	P Values
FL -> ID	0.181	0.179	0.075	2.416	0.016
FL -> AT	0.684	0.685	0.029	23.505	0.000
FL -> OV	0.703	0.703	0.029	24.18	0.000
AT -> ID	0.128	0.13	0.058	2.209	0.027
OV -> ID	0.441	0.444	0.072	6144	0.000
FL -> AT -> ID	0.088	0.089	0.041	2.135	0.033

FL -> OV -> ID	0.31	0.312	0.055	5.616	0.000
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Source: data processed, 2025

The test results in table 4 showed that all hypotheses are accepted if the t-statistic value is greater than 1.96 and the p-value is less than 0.05 at the 5% significance level.

Discussion

The researchers determined the sample size based on Lemeshow's theory. This study had a total of 17 indicators. However, due to time constraints, the researchers were only able to receive a sample of 385 respondents. This number was sufficiently representative for this study. A unique feature of this study is that many female investor respondents also invest in the capital market. They were predominantly aged 18-22 and still students. This age range represents the Gen Z segment. Private sector employees are also more active investors than civil servants. The highest levels of respondent spending were in the range of 1,000,001–2,000,000; 2,000,001–3,000,000; over 4,000,000; and 0–1,000,000. The most popular investment instruments were stocks, gold, mutual funds, and crypto. Most respondents in this study were Generation Z, who come from productive backgrounds and are still actively attending school, making them interested in digital services that can generate profits for them. Respondents felt that using this digital financial service enabled buying and selling transactions was efficient, and easy. Users expressed high confidence in this service.

The findings of this study reveal that most respondents were Generation Z investors, predominantly aged 18–22 and still pursuing formal education. Despite being in an early stage of their economic lives, these respondents actively participate in capital market investments, particularly through digital financial platforms that are perceived as efficient, accessible, and easy to use. The high participation of female investors and students indicates a positive shift toward more inclusive and early financial engagement. However, the dominance of young investors with varying expenditure levels and limited income stability suggests that investment decisions are not always grounded in comprehensive financial planning, highlighting the need for structured financial education tailored to Gen Z characteristics.

Furthermore, the popularity of high-risk investment instruments such as stocks and cryptocurrencies, coupled with respondents' high confidence in digital financial services, underscores the critical importance of financial management education for Generation Z. While financial literacy can empower young investors to participate in financial markets, insufficient understanding of risk management may lead to overconfidence and suboptimal investment decisions. Therefore, financial education programs should not only focus on increasing investment participation but also emphasize budgeting, risk assessment, and long-term financial planning. Strengthening financial management education for Gen Z is essential to ensure that their early engagement in investment activities contributes to sustainable financial well-being rather than short-term speculative behavior.

Consistent with prior empirical evidence, this study confirms that financial literacy positively influences investment decisions (Maheshwari et al., 2025; Olsson, 2023). These findings align with traditional financial decision-making theories, which assume that greater financial knowledge enhances investors' ability to evaluate risk, interpret market signals, and select appropriate investment instruments. However, extending previous studies that focus primarily on experienced or general investor populations, this research demonstrates that financial literacy plays a particularly enabling role for Generation Z investors who are still students and lack stable income sources. In this context, financial literacy functions not only as a technical capability but also as a legitimizing factor that encourages early participation in capital markets.

From a theoretical perspective, this result supports the cognitive foundation of the Theory of Planned Behavior (TPB), in which knowledge shapes behavioral beliefs that inform decision-making. Unlike prior studies that treat financial literacy as a direct predictor, the present findings suggest that its influence among young investors is embedded within broader psychological processes, necessitating a more integrative behavioral explanation.

The strong positive relationship between financial literacy and investment attitude provides empirical validation of TPB in the context of Generation Z investment behavior. Practically, financial literacy indicates an investor's level of understanding and attitude towards investing. This finding is particularly relevant given that most respondents are Generation Z individuals aged 18–22 who are still students and at an early stage of financial decision-making. In this context, financial literacy serves as a critical foundation that enables Gen Z investors to interpret abundant investment information more critically and rationally. According to TPB, attitudes represent evaluative judgments formed through beliefs about outcomes and consequences. This study shows that financial literacy significantly shapes these beliefs by enabling Gen Z investors to interpret investment-related information more confidently and positively. This finding corroborates Maheshwari et al. (2025), who argue that financial literacy enhances positive investment attitudes, but it extends their work by situating attitude as an intermediate mechanism rather than an outcome. For young investors operating in digital investment environments, attitudes appear to form rapidly once basic financial knowledge is acquired, reinforcing the importance of structured education that promotes balanced and realistic evaluative frameworks rather than overly optimistic perceptions.

This finding suggests that higher levels of financial literacy tend to increase investors' confidence in making investment decisions. While much of the literature emphasizes the protective role of financial literacy, this study reveals a significant positive relationship between financial literacy and overconfidence, supporting emerging behavioral finance perspectives (Shunmugasundaram & Sinha, 2024). This finding challenges the conventional assumption that increased knowledge necessarily mitigates behavioral bias. Considering the characteristics of the respondents, who are predominantly Generation Z in Surabaya aged 18–22 and mostly students, increased financial knowledge may quickly translate into greater self-confidence, especially as they actively use digital investment platforms and have easy access to financial information. However, this elevated confidence may develop into overconfidence if it is not accompanied by adequate risk awareness and self-control, consistent with Maheshwari et al. (2025), financial literacy can enhance investors' confidence, but without comprehensive financial education, young investors may underestimate risks and overestimate their own abilities. Instead, it suggests that among Generation Z investors, financial literacy may accelerate the development of perceived competence faster than actual experience. This outcome is consistent with behavioral bias theories, which posit that individuals with partial or newly acquired expertise are particularly susceptible to overconfidence. Theoretically, within the TPB framework, overconfidence can be interpreted as an inflated form of perceived behavioral control. While enhanced perceived control can motivate action, excessive confidence may distort risk perception, highlighting a critical boundary condition of financial literacy that has been insufficiently addressed in prior empirical studies.

This finding confirms that investors with positive and appropriate attitudes are more likely to make wise investment decisions, consistent with Maheshwari et al. (2025), who emphasize that good investment outcomes are closely linked to positive investor attitudes. The strong explanatory power of attitude highlights the importance of psychological factors in investment behavior, particularly in shaping how individuals evaluate risks and returns. The significant influence of attitude on investment decisions reinforces TPB's central proposition that attitudes directly shape behavior. This relationship is particularly

pronounced in Generation Z investors, who often rely on heuristic-based decision-making due to limited investment experience. Consistent with Che Hassan et al. (2023) and Adil et al. (2021), this study confirms that psychological orientation plays a decisive role in investment behavior, especially when analytical skills and experiential learning are still developing. By empirically demonstrating that attitude explains a substantial portion of investment decision variance, this study extends prior research by showing that favorable attitudes alone are insufficient unless grounded in realistic expectations. This highlights the importance of aligning attitudinal development with risk awareness to avoid emotionally driven or impulsive investment behavior. Therefore, financial education for Generation Z in Surabaya is essential not only to enhance financial knowledge but also to cultivate positive, rational, and disciplined investment attitudes. By strengthening financial education, young investors can be better equipped to manage emotions, avoid impulsive decisions, and pursue sustainable investment strategies that support long-term financial well-being.

The positive effect of overconfidence on investment decisions aligns with studies suggesting that confidence can facilitate decisive action and market participation (Maheshwari et al., 2025). However, this finding must be interpreted cautiously. This finding suggests that a certain level of confidence can positively influence investment decisions, as it encourages investors to act decisively and seize investment opportunities, consistent with Maheshwari et al. (2025), controlled overconfidence may contribute to better investment outcomes by supporting timely and assertive decision-making. For Generation Z investors, who are predominantly students with limited exposure to market downturns, overconfidence may initially encourage engagement but also increase vulnerability to misjudgment. For them, high confidence may easily escalate into excessive overconfidence, increasing the risk of underestimating uncertainty and ignoring potential losses. Therefore, financial education for Generation Z in Surabaya is essential to help young investors recognize and manage overconfidence, develop realistic expectations, and balance confidence with careful analysis. Strengthening financial education will enable Gen Z investors to harness confidence constructively, leading to more rational, disciplined, and sustainable investment decisions. This nuanced interpretation helps reconcile conflicting findings in the literature, where overconfidence is sometimes associated with both positive engagement and negative performance outcomes. From a TPB standpoint, overconfidence enhances perliteratureral control, increasing the likelihood of action. However, without corrective feedback and experience, this mechanism may undermine long-term investment performance.

The findings demonstrate that financial literacy significantly influences investment decisions through investment attitude, confirming the mediating role of attitude in the decision-making process. This result is consistent with prior studies that emphasize the importance of financial literacy in shaping investors' cognitive evaluations and perceptions toward investing (Maheshwari et al., 2025). Financially literate individuals tend to develop more structured and positive attitudes toward financial instruments, as they are better equipped to interpret information, assess risk–return trade-offs, and form realistic expectations. However, most existing studies, including Maheshwari et al. (2025), primarily conceptualize attitude as an outcome of financial literacy or as a direct antecedent of investment decisions, rather than as an explicit behavioral transmission mechanism. By empirically demonstrating that attitude partially mediates the relationship between financial literacy and investment decisions, this study extends prior research by integrating attitudinal processes within the Theory of Planned Behavior (TPB). Consistent with TPB, financial literacy functions as a cognitive foundation that shapes behavioral beliefs, which in turn form evaluative attitudes that guide investment behavior (Sobaih & Elshaer, 2023). This mechanism highlights

that knowledge alone is insufficient to directly drive behavior, particularly in investment contexts characterized by uncertainty and complexity.

The mediating role of attitude is especially salient for Generation Z investors, who dominate the respondent profile in this study. Previous research suggests that younger investors rely more heavily on perceptions, affective responses, and confidence due to limited investment experience (Che Hassan *et al.*, 2023; Adil *et al.*, 2021). In line with these findings, the present study shows that attitudes serve as a critical bridge between financial knowledge and actual investment decisions for Generation Z. Rather than engaging in purely analytical decision-making, Gen Z investors translate financial literacy into action through attitudinal orientations that simplify complex financial information. Importantly, the partial nature of the mediation indicates a dual-path influence. While attitude significantly explains how financial literacy is translated into investment behavior, financial literacy also retains a direct effect on investment decisions. This result aligns with integrative behavioral models, which suggest that investment behavior is shaped by both rational evaluation and psychological mechanisms. Unlike prior studies that predominantly rely on direct-effect models, this study provides empirical evidence that financial literacy operates simultaneously as a cognitive resource and as an antecedent of attitudinal formation. Overall, these findings contribute to the investment behavior literature by clarifying the mechanism through which financial literacy affects investment decisions, particularly among Generation Z investors in a digital investment environment. The results suggest that financial education initiatives should not be limited to improving financial knowledge but should also focus on shaping balanced and rational investment attitudes. Such an approach is essential to ensure that early investment participation among Generation Z leads to informed, disciplined, and sustainable investment behavior rather than short-term or perception-driven decision-making.

The findings confirm that attitude partially mediates the relationship between financial literacy and investment decisions, reinforcing the applicability of the Theory of Planned Behavior (TPB) to Generation Z investors. While prior studies establish that financial literacy improves investment rationality and outcomes (Adil *et al.*, 2021; Patrisia *et al.*, 2023) and that attitude is a key driver of investment behavior (Che Hassan *et al.*, 2023), existing research largely treats these factors as independent predictors. This study advances the literature by demonstrating that financial literacy operates through attitude formation, whereby enhanced financial knowledge strengthens behavioral beliefs and translates into more favorable investment decisions. This mechanism is especially salient for Generation Z, whose investment behavior relies heavily on perceptions and evolving cognitive frameworks rather than accumulated market experience (Mahapatra *et al.*, 2022; Hong Shan *et al.*, 2023). The results further indicate that overconfidence partially mediates the effect of financial literacy on investment decisions, revealing a behavioral amplification mechanism aligned with TPB's perceived behavioral control. Prior research identifies overconfidence as a dominant behavioral bias in investment decision-making (Shunmugasundaram & Sinha, 2024; Jiang *et al.*, 2024), while financial literacy enhances perceived competence and decision autonomy (Adil *et al.*, 2021; Ainiyah *et al.*, 2024). This study extends existing evidence by empirically linking financial literacy to overconfidence, showing that increased financial knowledge heightens perceived control, thereby increasing investment activity. The partial mediation suggests that confidence complements rather than replaces rational evaluation, particularly under conditions of uncertainty and technology-driven information intensity (Nguyen *et al.*, 2022; Dakalbab *et al.*, 2024).

Overall, this study contributes by jointly modeling attitude and overconfidence as mediating mechanisms in the financial literacy–investment decision relationship among Generation Z investors. Unlike prior studies that examine behavioral factors in isolation (Adil M, 2021); Maheshwari *et al.*, 2025), this research provides an integrated TPB-based explanation capturing both cognitive and psychological transmission

paths. The findings demonstrate a dual-path effect of financial literacy, directly influencing investment decisions and indirectly shaping attitudes and perceived behavioral control, thereby refining behavioral finance models and informing the design of financial education interventions that promote informed and sustainable investment behavior (Che Hassan *et al.*, 2023; Olsson, 2023).

Conclusions

This study advances behavioral finance research by demonstrating that financial literacy influences investment decisions through both direct and indirect behavioral pathways, with attitude and overconfidence acting as partial mediators. Consistent with the Theory of Planned Behavior (TPB), the findings show that financial literacy shapes behavioral beliefs that form attitudes and enhances perceived behavioral control through overconfidence. Importantly, the persistence of a direct effect confirms that financial literacy retains explanatory power beyond psychological mechanisms, supporting a dual-path influence model.

The study makes three main theoretical contributions. First, it extends TPB by positioning financial literacy as an active cognitive antecedent, rather than a background characteristic, that shapes both attitudinal and control-related components of investment behavior. Second, by jointly modeling attitude and overconfidence as mediators, this research integrates rational and behavioral perspectives within a single framework, addressing limitations in prior studies that examine these constructs in isolation. Third, the findings highlight a generational nuance: for Generation Z, financial literacy functions primarily as a decision-enabling mechanism rather than a risk-filtering device. Increased literacy strengthens confidence and action orientation, even when risk evaluation remains imperfect.

The partial mediation effects further indicate that while attitude and overconfidence are important transmission channels, they do not fully explain how financial literacy translates into investment decisions. This suggests the presence of additional mechanisms—such as subjective norms, technological affordances, or emotional drivers—that warrant integration into future behavioral finance models. The results therefore reinforce the view that financial literacy is behaviorally contingent, interacting with psychological biases rather than uniformly mitigating them.

This study is limited by its focus on student-based Generation Z investors in Surabaya and its cross-sectional design. Future research should employ longitudinal and multi-group approaches to examine how these mechanisms evolve with experience and income stability. Overall, the findings underscore the need for integrative theoretical models that jointly consider knowledge, attitudes, and behavioral biases in explaining investment decision-making.

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Appendix 1. Questionnaires

Financial Literacy (FL)	Basic Understanding of Financial Literacy	I understand how the stock market works.
	Fundamental Knowledge of Financial Literacy	I know what the term “blockchain” means.
	Ability to Analyze Financial Data	The messages presented in financial advertisements are relevant to me when choosing various products and services.
	Investment Competence	I believe that personal financial literacy can help guide financially secure investment decisions.
	Keeping Up with Information Developments	I usually follow the stock market through financial news (TV, newspapers, financial reports, prospectuses, and manuals).
Attitude (AT)	Individual Interest in Investing	I am interested in investing money.
	Capacity and Available Resources	If I have the opportunity and the necessary resources, I will start my own investments.
	Satisfaction with Investment	Investing money gives me great satisfaction.
	Perceived Benefits	Investing money brings more benefits than losses.
	Individual Economic Independence	Investing money makes me economically independent.
	Ability to Analyze Market Conditions	Understanding speculative markets makes us aware of choices in the investment market.
Overconfidence (OV)	Experience Gained from Investing in the Capital Market	I am an experienced investor.
	Confidence in Investing	I think my investment decisions are better than those of others.
	Confidence in Investing	I am confident that my stock analysis is always correct.
	Perceived Level of Understanding	I think other people have less stock market knowledge than me.
	Confidence in Investing	I can predict future stock prices after conducting analysis.

	Absolute Confidence	I prioritize my own decisions because I believe I am right.
Investment Decision (ID)	Analyzing Before Making Decisions	I believe that successful investment decisions depend on identifying key factors in investment decision-making.
	Expected Outcomes	I believe that defining clear investment objectives contributes to successful investment decisions.
	Use of Information	I believe that gathering appropriate information before making investment decisions contributes to rational decision-making.
	Evaluation of Investment Performance	I believe that evaluating expected outcomes of available investment alternatives is a key factor in selecting the best alternative.
	Use of Financial Reports	I consider the financial reports issued by companies in which I intend to invest, especially dividend policies, sufficient for making investment decisions.
	Balance Between Returns and Risk	Investment strategies are based on achieving a balance between return and risk.

Source: data processed, 2025