



Mood, Demographics, and Investment Behaviour: A Conditional Process Analysis

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ABSTRACT

This study aims to examine the effect of mood on investment decisions and the moderating roles of gender and educational level. Using a quantitative approach with 135 respondents, data were analysed through moderation regression with PROCESS Hayes Model 2. The findings reveal that mood has a positive and significant effect on investment decisions in the baseline condition, namely female respondents with low educational attainment ($B = 0.539$; $p = 0.005$). However, the interactions between mood $\times$ gender ($B = -0.508$; $p = 0.027$) and mood $\times$ education ($B = -0.317$; $p = 0.007$) are significant, indicating that the effect of mood on investment decisions varies by gender and educational level. Conditional effect analysis shows that the positive effect of mood diminishes at higher educational levels and even reverses to negative among males with medium to high education. These findings highlight that psychological and demographic factors simultaneously moderate the relationship between mood and investment decisions. This study contributes to the behavioural finance literature by emphasising the importance of demographic and cognitive capacity variables in understanding the role of emotions in financial decision-making.

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1. INTRODUCTION

Financial decision-making stands as one of the most consequential dimensions of individual economic behaviour, particularly in contexts characterised by market uncertainty and rapid information flows. In Indonesia, a country experiencing sustained economic growth and an increasingly dynamic capital market, understanding the psychological determinants of investor behaviour has grown in both academic and practical relevance. The Indonesian capital market has witnessed a remarkable surge in individual investor participation in recent years, making it imperative to examine not only the rational foundations of investment decisions but also the affective and contextual factors that shape them (Bahari et al., 2025). Among these factors, mood, defined broadly as a diffuse affective state that colours cognitive processing and evaluative judgment, has emerged as a theoretically grounded and empirically supported influence on financial behaviour (Clark & Watson, 1994; Lucey & Dowling, 2005).

A growing body of research in behavioural finance has established that investor decisions are far from purely rational. Behavioural biases, emotional states, and heuristic reasoning systematically deviate from the predictions of classical financial theory (Kahneman & Tversky, 1979; Shefrin & Statman, 2000). Mood, in particular, has been shown to influence risk perception, optimism, and decision propensity across a wide range of economic contexts (Kliger & Levy, 2003; Kuhnen & Knutson, 2011). Recent evidence further demonstrates that emotional biases, including mood-driven distortions, continue to shape investment outcomes even after controlling for financial literacy (Aryadevi et al., 2025; Bahari et al., 2025). Despite this, relatively few studies have examined whether the mood-investment decision relationship is uniformly distributed across investor subgroups or whether it varies systematically as a function of demographic characteristics such as gender and educational attainment.

The present study addresses this gap by adopting a conditional process framework that positions mood as the focal predictor of investment decisions while treating gender and educational level as simultaneous moderators. Prior research has examined these demographic variables independently. Gender differences in investment behaviour are well documented; females tend to adopt more conservative, long-term orientations, while males exhibit higher risk tolerance and more frequent trading (Ahmad et al., 2025; Raj, 2025). Educational level, in turn, is consistently associated with greater financial literacy, more systematic decision-making, and reduced susceptibility to cognitive biases (Adil et al., 2022; Doğaner et al., 2024). However, whether and how these two moderators jointly condition the affective pathway from mood to investment decisions remains underexplored, especially in the Indonesian context.

Theoretically, this study draws on three complementary frameworks: Appraisal Theory, which posits that emotions arise from cognitive evaluations of events and carry informational value for subsequent judgments (Lazarus, 1991); the Affect Infusion Model (AIM), which specifies conditions under which mood is most likely to infiltrate cognitive processing and decision outcomes (Forgas, 1995); and the concept of mood misattribution, wherein individuals erroneously attribute diffuse affective states to the decision context at hand (Lucey & Dowling, 2005; Rohr et al., 2022).

The study contributes to the behavioural finance literature in three respects. First, it operationalises a dual-moderation model (Hayes PROCESS Model 2) that simultaneously tests gender and education as moderators, moving beyond single-moderator designs prevalent in prior work. Second, it provides empirical evidence from Indonesia, an emerging market where behavioural finance scholarship remains comparatively limited. Third, it offers granular conditional effect estimates that reveal heterogeneous mood effects across six demographic subgroups, providing actionable insights for financial educators and investment advisors. The central research question is: To what extent do gender and educational level moderate the relationship between mood and investment decisions among individual investors in West Java and Banten, Indonesia?

Behavioural finance emerged as a critique of the neoclassical assumption of investor rationality, drawing on cognitive psychology to explain systematic deviations from optimal financial decisions (Kahneman & Tversky, 1979; Thaler, 1999). Central to this paradigm is the recognition that both cognitive biases and affective states shape economic behaviour in ways that cannot be accounted for by expected utility theory. Mood is particularly relevant because its diffuse nature makes it susceptible to misattribution, whereby investors confound incidental mood states with task-relevant affect (Rohr et al., 2022).

The Affect Infusion Model (AIM) provides a theoretical account of when mood most substantially influences judgment and decision-making. According to this model, affective states are most likely to infuse cognitive processing when tasks are complex, information is ambiguous, and outcomes are personally relevant, all conditions that characterise investment decisions (Forgas, 1995). Complementarily, Appraisal Theory holds that emotional states carry evaluative implications: positive mood signals that one's environment is safe and opportunities are abundant, thereby increasing risk propensity, while negative mood signals potential threat and promotes analytical caution (Lazarus, 1991). Empirical studies have consistently confirmed that positive mood is associated with greater risk tolerance, higher trading frequency, and more optimistic return expectations (Gear et al., 2017; Kliger & Levy, 2003; Kuhnlen & Knutson, 2011).

Recent empirical work in emerging markets reinforces this view. Bahari et al. (2025) found that emotional bias significantly predicted investment decisions among Indonesian Stock Exchange participants, even after accounting for cognitive bias and financial literacy. Aryadevi et al. (2025) similarly demonstrated that emotional intelligence moderates the relationship between financial literacy and investment choice. These findings underscore that affect-related constructs continue to be consequential determinants of investment behaviour in developing market settings.

Gender is among the most extensively studied demographic variables in investment behaviour research. A consistent finding across cultural contexts is that female investors exhibit greater risk aversion, prefer capital-preserving assets, and adopt longer investment horizons, while male investors display higher overconfidence, greater risk appetite, and more frequent portfolio turnover (Ahmad et al., 2025; Raj, 2025). These behavioural differences are theorised to stem from both biological predispositions and socialisation processes that shape emotional expression and information processing styles.

From a mood moderation perspective, gender differences in emotional sensitivity and regulatory strategies suggest that mood effects on investment decisions are unlikely to be uniform across genders. Female investors, who tend to be more attuned to emotional signals and more cautious in decision-making, may demonstrate stronger alignment between positive mood and investment propensity in lower-information environments. Male investors, by contrast, may be less responsive to mood at lower educational levels due to overconfidence effects, yet more susceptible to mood-driven errors as educational level rises if the overconfidence effect compounds mood misattribution (Czerwotka, 2017). Collectively, this literature supports the hypothesis that gender moderates the mood–investment decision relationship.

Educational attainment is widely recognised as a proxy for financial literacy and cognitive capacity in investment decision-making research. Higher educational levels are associated with greater ability to evaluate risk and return trade-offs analytically, better calibration of confidence, and reduced reliance on affective heuristics (Adil et al., 2022; Doğaner et al., 2024; Lusardi & Mitchell, 2014). Malik et al. (2026) found that financial literacy moderated the relationship between behavioural biases and investment decisions in the Pakistan Stock Exchange, with more literate investors less susceptible to bias-driven deviations. Similarly, Manocha et al. (2023) demonstrated that socioeconomic and educational demographics conditioned how strongly non-rational behavioural factors influenced investment outcomes among farmers in India.

In the context of mood and investment, higher education may attenuate mood effects through two mechanisms. First, more educated investors are better equipped to recognise and discount the irrelevance of their affective states to investment evaluation, a metacognitive capacity associated with explicit emotion regulation strategies such as cognitive reappraisal (Gross & John, 2003; Milyavsky et al., 2019). Second, higher education may introduce overconfidence as a competing bias that paradoxically diminishes decision quality even in positive mood states (Czerwotka, 2017; Novianggie & Asandimitra, 2019). Both mechanisms predict a negative interaction between educational level and mood in predicting investment decisions.

2. METHODS

This study employed a quantitative cross-sectional survey design, consistent with Creswell & Creswell (2018) framework for testing objective theory through the examination of relationships among measured variables. The target population comprised individual investors in West Java and Banten Provinces, Indonesia, who were actively engaged in financial market investment at the time of data collection. A total of 135 respondents were recruited through purposive sampling to ensure that participants possessed demonstrable investment experience. This sample size exceeds the minimum threshold recommended for reliable moderation analysis using the PROCESS macro (Hayes, 2018).

Data were collected via a structured questionnaire comprising validated scales from prior behavioural finance research. Mood was measured using The Mood and Feelings Questionnaire (MFQ), capturing both positive and negative affective states. Investment decisions were

operationalised using multi-item scales assessing the quality and confidence of investment choices. Demographic variables (gender and educational level) were collected as categorical indicators: gender was coded as 0 = female and 1 = male; educational level was coded ordinally as 0 = secondary education, 1 = diploma, 2 = bachelor's degree, and 3 = master's degree.

Statistical analyses were conducted using IBM SPSS Statistics with the PROCESS macro (Hayes, 2018), Model 2, which estimates a moderated regression model with two simultaneous moderators and their interaction with the predictor. This model permits the estimation of both individual and joint moderation effects, as well as conditional effects of mood at specified values of each moderator. Prior to hypothesis testing, classical assumption tests were performed: normality was evaluated via Normal P–P Plot inspection, multicollinearity was assessed using Tolerance and Variance Inflation Factor (VIF) indices, and homoscedasticity was examined via a scatterplot of standardised residuals. All assumptions were satisfactorily met, as detailed in the results section.

3. RESULTS AND DISCUSSION

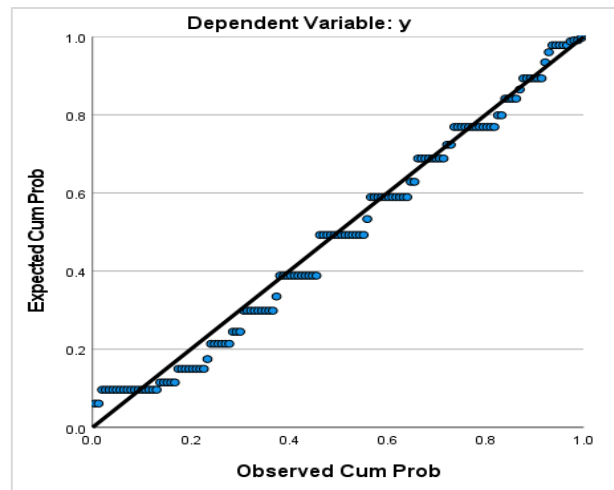
The sample consisted of 135 individual investors. Table 1 presents the demographic profile of respondents.

No	Category	Frequency	%
1	Gender		
	Male	67	49,63
	Female	68	50,37
	Total	135	100
2	Educational Level		
	Diploma	3	2,22
	Master's Degree	27	20,00
	Secondary Education	64	47,41
	Bachelor's Degree	41	30,37
	Total	135	100
3	Monthly Income		
	< IDR 5 million/month	88	65,19
	> IDR 10 million/month	28	20,74
	IDR 5–10 million/month	19	14,07
	Total	135	100

Source: Authors' data analysis, 2025

Gender distribution was nearly balanced: 67 males (49.63%) and 68 females (50.37%). This near-equal representation means findings can be interpreted with reasonable confidence across both groups. By educational level, the majority held secondary education qualifications (64, or 47.41%), followed by bachelor's degree holders (41, or 30.37%), master's degree holders (27, or 20.00%), and diploma graduates (3, or 2.22%). This composition suggests substantial variation in cognitive capacity and financial literacy, which is theoretically significant for the analysis. Income was predominantly in the lowest bracket: 65.19% earned under IDR 5 million per month, with 20.74% earning above IDR 10 million and 14.07% falling in the middle range. This

diversity in economic background adds another layer of context for interpreting investment behaviour.



Source: Authors' data analysis, 2025

Figure 1. Normal P-Plot

The normality of residuals was assessed using the Normal P–P Plot. As shown in Figure 2, the standardised residual points cluster closely along the diagonal reference line, indicating that the residual distribution approximates normality and that the normality assumption is satisfied. Multicollinearity was assessed by examining tolerance values and Variance Inflation Factor (VIF) scores. A well-specified regression model should be free from high inter-correlations among predictors.

Table 2. Multicollinearity Test Results
Coefficients^a

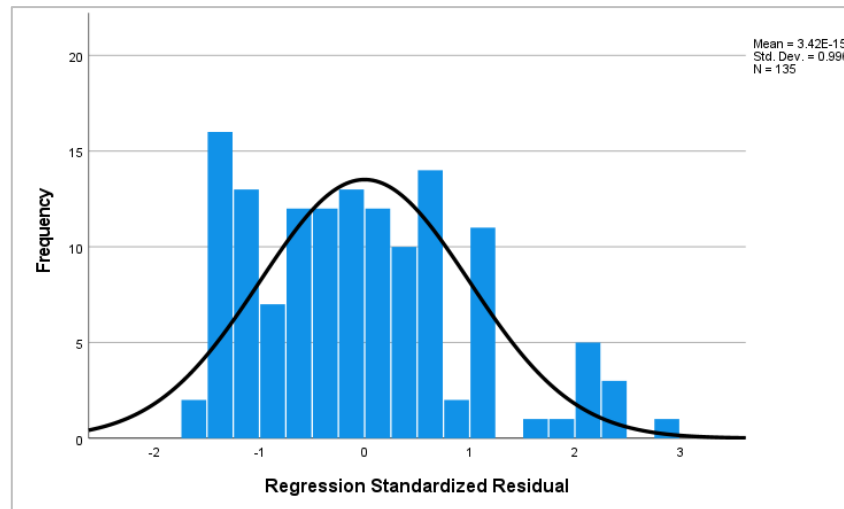
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	3.639	.046		79.533	.000		
x	-.050	.119	-.037	-.422	.674	1.000	1.000

a. Dependent Variable: y

Source: Authors' data analysis, 2025

The regression results show that variable X has no significant effect on Y in isolation ($B = -0.050$; $t = -0.422$; $p = 0.674$). The multicollinearity test yields Tolerance = 1.000 and VIF = 1.000, both well within acceptable thresholds, confirming that the model is free from multicollinearity. The classical assumptions of normality and multicollinearity are therefore satisfied.

Heteroscedasticity was assessed via a scatterplot of standardised residuals against standardised fitted values. A model free from heteroscedasticity should show no discernible pattern; points should scatter randomly around the horizontal axis without narrowing or widening trends.



Source: Author's data analysis, 2025
Figure 2. Residuals Scatterplot

As Figure 2 shows, the residual points are randomly dispersed around the horizontal axis with no identifiable pattern, confirming that the model is free from heteroscedasticity and that the homogeneity of variance assumption holds. The estimated model is Hayes PROCESS Model 2, specifying two moderators on the $X \rightarrow Y$ pathway. The dependent variable (Y) is investment decision; the focal predictor (X) is mood; Moderator 1 (W) is gender (0 = female; 1 = male); and Moderator 2 (Z) is educational level (0 = secondary education, 1 = diploma, 2 = bachelor's, 3 = master's).

$$Y = 0.540X + 0.241\text{Gen} + 0.120\text{Edu} - 0.506X \times \text{Gen} - 0.318X \times \text{Edu} + e$$

The regression equation indicates that mood has a positive effect on investment decisions among female investors with low educational attainment ($B = 0.540$). The interaction terms, mood $\times$ gender ($B = -0.506$) and mood $\times$ education ($B = -0.318$), indicate that this positive effect attenuates for males and for investors at higher educational levels, and may even reverse direction.

Table 3. Model Summary

R	R-sq	MSE	F	df1	df2	p
0,406	0,165	0,208	5,100	5,000	129,000	0,000

Source: Author's data analysis, 2025

Table 3 shows that the full model comprising mood as the focal predictor, gender and educational level as moderators, and the two interaction terms accounts for 16.5% of the variance in investment decisions ($R = 0.406$; $R^2 = 0.165$). The overall F-test is significant ($F(5,129) = 5.10$; $p < 0.001$), confirming that the combination of variables contributes meaningfully to investment decisions. The model demonstrates good fit.

Table 4. Regression Coefficients

	coeff	se	t	p	LLCI	ULCI
constant	3,368	0,075	45,136	0,000	3,244	3,491
Mood	0,539	0,191	2,828	0,005	0,223	0,855
Gender	0,241	0,085	2,826	0,005	0,100	0,382
Mood × Gender (Int_1)	-0,508	0,227	-2,237	0,027	-0,884	-0,132
Educational Level	0,120	0,034	3,565	0,001	0,064	0,175
Mood × Education (Int_2)	-0,317	0,116	-2,728	0,007	-0,509	-0,124

Source: Author's data analysis, 2025

At the baseline condition (female respondents with secondary education), mood exerted a positive and statistically significant effect on investment decisions ($B = 0.539$; $SE = 0.191$; $t = 2.828$; $p = 0.005$; 95% CI [0.223, 0.855]). This finding supports H1 and is consistent with the well-established proposition in behavioural finance that positive mood enhances investment propensity by elevating optimism, increasing confidence in future returns, and reducing perceived risk (Gear et al., 2017; Kuhnen & Knutson, 2011; Lucey & Dowling, 2005). The result aligns with Schwarz & Clore's (1983) affect-as-information theory, which posits that individuals use their current emotional state as a source of evaluative information during judgment tasks.

This finding is further corroborated by recent empirical evidence from Indonesia and comparable emerging markets. Bahari et al. (2025) found that emotional bias was a significant predictor of investment decisions among Indonesian Stock Exchange participants, while Aryadevi et al. (2025) demonstrated that emotional intelligence an individual's capacity to perceive, appraise, and regulate emotions- directly influences investment choice. These studies reinforce the proposition that affective states are not merely epiphenomenal to financial decision-making but constitute a substantive informational input that shapes risk evaluation and portfolio behaviour.

The mood × gender interaction term was statistically significant ($B = -0.508$; $p = 0.027$), confirming that gender moderates the mood–investment decision relationship (H2 supported). The negative sign of the interaction indicates that the positive effect of mood on investment decisions is weaker among males than among females. This pattern is theoretically coherent given that male investors, who generally exhibit higher baseline confidence and overconfidence tendencies, may rely less on affective cues and more on pre-existing dispositional beliefs when making investment choices (Hanif et al., 2026).

The mood × education interaction was also significant ($B = -0.317$; $p = 0.007$), providing support for H3. As educational level increased, the positive effect of mood on investment decisions diminished systematically. This finding accords with Lusardi & Mitchell's (2014) extensive work on financial literacy, which demonstrated that more educated investors employ more structured analytical processes, effectively reducing the relative weight of incidental affective states in their decision-making. Doğaner et al. (2024) similarly found that stock market literacy conditioned how strongly mood-unrelated factors influenced investment decisions among Turkish investors. In the Indonesian context, Malik et al. (2026) confirmed that financial

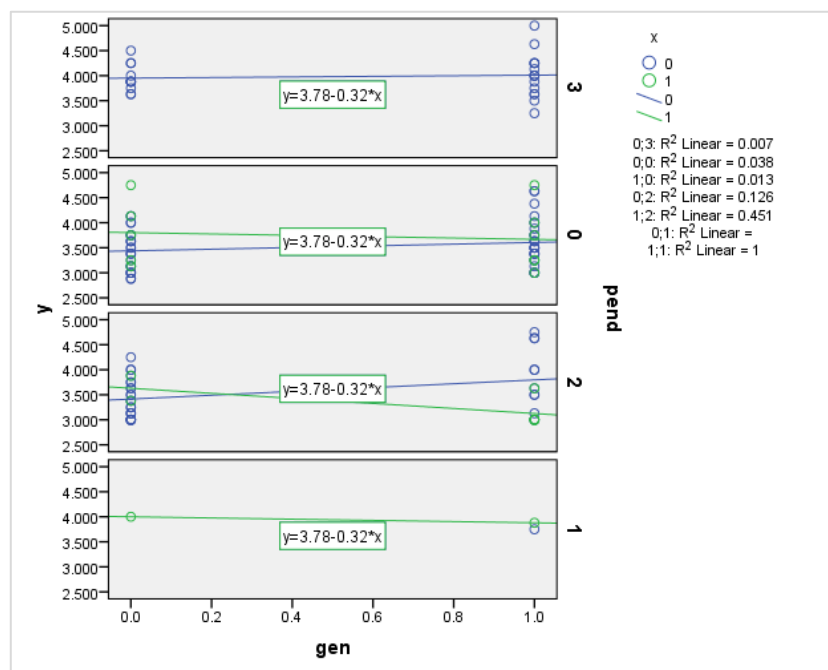
literacy moderated behavioural bias effects on investment decisions, suggesting that the education-as-moderator mechanism operates across different national settings.

Table 5. Conditional effects of the focal predictor at values of the moderator

Gender	Educational Level	Effect	se	t	p	LLCI	ULCI
Female (0)	0,000	0,539	0,191	2,828	0,005	0,223	0,855
Female (0)	1,230	0,149	0,184	0,811	0,419	-0,156	0,455
Female (0)	2,469	-0,243	0,270	-0,902	0,369	-0,690	0,204
Male (1)	0,000	0,031	0,182	0,172	0,863	-0,270	0,333
Male (1)	1,230	-0,358	0,149	-2,400	0,018	-0,606	-0,111
Male (1)	2,469	-0,751	0,229	-3,275	0,001	-1,131	-0,371

Source: Processed Data, 2025. Note: * $p < .05$; ** $p < .01$; ns = not significant

The conditional effect analysis, presented in Table 5, reveals a compelling pattern of divergence across gender-by-education subgroups. Among female investors with low educational attainment, the mood effect was positive and significant ($B = 0.539$; $p = 0.005$), confirming the baseline finding. As educational level rose among females, the effect progressively attenuated and became non-significant at medium ($B = 0.149$; $p = 0.419$) and intermediate-high levels ($B = -0.243$; $p = 0.369$). Among male investors, the pattern was more pronounced: the mood effect was non-significant at the lowest educational level ($B = 0.031$; $p = 0.863$) but became significantly negative at medium ($B = -0.358$; $p = 0.018$) and high educational levels ($B = -0.751$; $p = 0.001$). These results support H4, indicating that gender and educational level jointly produce heterogeneous mood effects.



Source: Data Processed. 2025

Figure 3. Moderation Interaction Plot (Hayes Model 2)

The divergence between highly educated male investors and less-educated female investors is theoretically significant and warrants further discussion. Highly educated male investors showed a strongly negative mood effect ($B = -0.751$; $p = 0.001$), suggesting that positive mood actually impairs decision quality in this subgroup. Two non-mutually exclusive explanations are plausible. First, higher cognitive capacity and financial literacy in this group may lead to excessive confidence, an overconfidence effect that is paradoxically amplified rather than tempered by positive mood (Czerwonka, 2017; Novianggie & Asandimitra, 2019). When mood is positive, overconfident male investors may become even more dismissive of pertinent risk information, thereby degrading decision quality. Second, individuals with higher educational attainment tend to deploy cognitive reappraisal strategies to regulate emotion (Gross & John, 2003; Milyavsky et al., 2019), which may introduce a dissonance between intuitive mood signals and analytical evaluations, disrupting decision coherence.

Individuals in a positive mood tend to be more optimistic, perceive risk as lower, and make bolder investment decisions (Lucey & Dowling, 2005). However, this effect is strongest among those who rely more on intuition and emotional cues rather than analytical reasoning. Women with lower educational attainment may lean more heavily on emotional signals in decision-making precisely because their formal financial literacy and investment experience are more limited (Lusardi & Mitchell, 2014). When mood improves, they are correspondingly more likely to make positive investment decisions.

For more highly educated males, the pattern runs in the opposite direction. Two mechanisms explain this reversal. First, higher-educated individuals tend to have stronger cognitive capacity and financial literacy, so their investment decisions are anchored more in rational calculation than in emotional cues (Novianggie & Asandimitra, 2019). In this context, mood not only loses relevance, but it may also actually function as a distractor that interferes with rational evaluation. Second, individuals with higher cognitive capacity are prone to overconfidence (Czerwonka, 2017). Even when mood is positive, excess confidence can degrade decision quality, so the net effect of mood becomes negative.

These results are consistent with the behavioural finance literature showing that mood exerts its strongest influence on investors with lower cognitive capacity (Lusardi & Mitchell, 2014), while among more highly educated males, mood's effect can turn negative due to overconfidence or more cognitively-driven emotion regulation strategies (Gross & John, 2003; Kliger & Levy, 2003). The findings reveal a dualistic relationship between psychology and economic behaviour: mood enhances investment decision quality in groups that rely more heavily on affective processing (Gear et al., 2017), while at higher levels of cognitive and financial literacy, its effect paradoxically diminishes or becomes counterproductive (Bai, 2023). This aligns with the behavioural finance literature emphasising that emotional bias is more dominant among analytically less skilled individuals (Loerwald & Stemmann, 2016), while more educated individuals tend to employ cognitive reappraisal strategies in emotion regulation (Milyavsky et al., 2019).

4. CONCLUSION

This study examined the conditional nature of mood's effect on investment decisions among individual investors in West Java and Banten, Indonesia, with gender and educational level as simultaneous moderators. The findings reveal four principal conclusions. First, mood exerts a positive and significant effect on investment decisions at the baseline condition (female investors with low educational attainment), providing support for the affect-as-information and Affect Infusion Model frameworks. Second, gender significantly moderates this relationship, with the mood effect being weaker among males, a finding attributable to differences in overconfidence levels and affective processing styles between genders. Third, educational level also significantly moderates the mood effect, attenuating it at higher educational levels and reversing to significantly negative among highly educated male investors. This reversal is most plausibly explained by the interplay of overconfidence and cognitive reappraisal tendencies associated with higher educational attainment. Fourth, gender and educational level jointly produce heterogeneous conditional effects, confirming that the psychological architecture of investment decision-making is deeply sensitive to demographic configuration.

These findings carry meaningful implications for financial education and investment advisory practice. Financial literacy programs should be tailored to the affective profiles of target demographic groups: for lower-educated investors, particularly women, developing emotional awareness and mood regulation skills may substantially improve investment decision quality. For highly educated male investors, interventions addressing overconfidence are likely to be more effective. From a theoretical standpoint, this study extends the behavioural finance literature by demonstrating that demographic variables do not simply amplify or attenuate mood effects uniformly but generate qualitatively different mood-decision dynamics depending on the combined gender-education profile of the investor. Future research should examine these relationships longitudinally, include additional demographic and cognitive variables (e.g., investment experience, cognitive reflection ability), and extend the conditional process framework to other emerging markets where similar patterns may obtain.

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