

The Influence of Behavioral Biases on Financial Decision-Making among Generation Z in Aceh Tamiang: The Mediating Role of Religiosity

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ABSTRACT

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This study examines the influence of behavioral biases on the financial decision-making of Generation Z in Aceh Tamiang, with religiosity as a potential mediating factor. Generation Z, raised in the digital era with vast financial information access, faces growing challenges in managing finances effectively. Integrating Behavioral Finance Theory with religiosity, the study explores financial behavior within the socio-cultural context of Aceh Tamiang. The research investigates five key variables: Endowment Bias, Overconfidence, Herding Behavior, Religiosity, and Financial Decision-Making Behavior. Using accidental random sampling, 400 respondents aged 15–29 years participated. Results indicate that Endowment Bias, Overconfidence, and Religiosity significantly influence financial behavior, while Herding Behavior has no significant effect. Religiosity acts as a personal value shaping financial behavior rather than a mediating variable. Current outputs include a draft manuscript for an international journal and a draft research poster, with short-term goals focused on finalizing both outputs.



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Introduction

Financial decision-making among young adults has become an increasingly complex phenomenon in the digital economy. The rapid expansion of fintech platforms, investment applications, and social media-driven financial advice has fundamentally reshaped how individuals—especially Generation Z—interact with money. Generation Z, those born between 1997 and 2012, is widely recognized as a digital-native cohort with unprecedented access to financial information and online investment tools (Indriana et al., 2025; Rahmawati & Raharja, 2024) ^{1;2}. Despite this accessibility, multiple studies reveal that Generation Z often demonstrates limited financial prudence, low saving intentions, and susceptibility to emotional and social influences when making financial decisions (Tikaromah et al., 2026; Setiawati & Primadineska, 2025)

¹ Indriana et al., “INCREASING FINANCIAL INCLUSION OF GENERATION Z THROUGH DIGITAL LITERACY, LIFESTYLE, AND QRIS MEDIATED PATH ANALYSIS,” *Jurnal Reviu Akuntansi Dan Keuangan* 16, no. 01 (2025): 205–19, <https://doi.org/10.22219/jrak.v16i1.43835>.

² Umi Rahmawati and Surya Raharja, “Investment Decision-Making With Fear of Missing Out As a Mediating Variable Among Generation Z Investors,” *Indonesian Interdisciplinary Journal of Sharia Economics (IIJSE)* 7, no. 3 (2024): 8461–82.

^{3,4}. These behavioral tendencies suggest that access to information alone does not necessarily translate into rational financial behavior. From the theoretical perspective, Behavioral Finance Theory, initially developed by Kahneman and Tversky (1979) ⁵ and later expanded by Barberis and Thaler (2003) ⁶, offers a useful framework for understanding this paradox. The theory asserts that financial decisions are not entirely rational but are shaped by systematic psychological biases that lead to deviations from the expected utility model. Among the most studied biases are overconfidence, herding behavior, and endowment bias (Raj, 2026; Abideen, 2023) ^{7,8}. Overconfidence bias leads individuals to overestimate their knowledge and predictive ability, causing excessive trading and risk-taking (Ritter, 2003) ⁹. Herding behavior, on the other hand, reflects the human tendency to imitate others' financial choices without adequate analysis (Banerjee, 1992; Bikhchandani & Sharma, 2000) ^{10,11}. Endowment bias occurs when individuals assign a higher value to possessions merely because they own them, affecting their financial valuation and spending behavior (Thaler, 1980; Kahneman, Knetsch, & Thaler, 1991) ^{12,13}. These biases collectively shape suboptimal financial decision-making, particularly among inexperienced or emotionally driven individuals.

However, behavioral finance studies have often been concentrated in Western or market-oriented settings, where cultural and spiritual dimensions play a minor role. This creates a theoretical gap when applying the same frameworks to societies where religiosity strongly influences individual and collective behavior. Religiosity represents an internalized belief system that guides moral reasoning, self-regulation, and ethical decision-making (Worthington et al., 2003; Hilary & Hui, 2009) ^{14,15}. It can serve as a psychological buffer that mitigates irrational tendencies and encourages disciplined financial behavior. In Islamic contexts, religiosity promotes principles such as avoiding riba (interest), moderation, and

³ Oom Tikaromah et al., "FINANCIAL LITERACY AND HERDING EFFECTS ON GENERATION Z'S SAVING BEHAVIOR: EVIDENCE FROM BEKASI DISTRICT," *E-JURNAL EKONOMI DAN BISNIS UNIVERSITAS UDAYANA* 15, no. 03 (2026): 280–91, <https://ejournal4.unud.ac.id/index.php/ceb/>.

⁴ Nila Tri Setiawati and Rasistia Wisandianing Primadineska, "Financial Behavior of Generation Z in Indonesia: Impact of Literacy, Technology and Lifestyle," *Telaah Bisnis* 26, no. 1 (July 28, 2025): 55, <https://doi.org/10.35917/tb.v26i1.596>.

⁵ Daniel Kahneman and Amos Tversky, "Prospect Theory: An Analysis of Decision under Risk," *Econometrica* 47, no. 2 (March 1979): 263, <https://doi.org/10.2307/1914185>.

⁶ Nicholas Barberis and Richard Thaler, "Chapter 18 A Survey of Behavioral Finance," 2003, 1053–1128, [https://doi.org/10.1016/S1574-0102\(03\)01027-6](https://doi.org/10.1016/S1574-0102(03)01027-6).

⁷ Gargi Raj, "Biases and Investment Decision: An Analysis of Demographics Using PLS-MGA," *International Journal of Accounting & Information Management* 34, no. 1 (March 3, 2026): 123–44, <https://doi.org/10.1108/IJAIM-08-2024-0282>.

⁸ Zain UI Abideen et al., "Do Behavioral Biases Affect Investors' Investment Decision Making? Evidence from the Pakistani Equity Market," *Risks* 11, no. 6 (June 6, 2023): 109, <https://doi.org/10.3390/risks11060109>.

⁹ Jay R Ritter, "Behavioral Finance," *Pacific-Basin Finance Journal* 11, no. 4 (September 2003): 429–37, [https://doi.org/10.1016/S0927-538X\(03\)00048-9](https://doi.org/10.1016/S0927-538X(03)00048-9).

¹⁰ A. V. Banerjee, "A Simple Model of Herd Behavior," *The Quarterly Journal of Economics* 107, no. 3 (August 1, 1992): 797–817, <https://doi.org/10.2307/2118364>.

¹¹ Sushil Bikhchandani and Sunil Sharma, "Herd Behavior in Financial Markets," *IMF Staff Papers* 47, no. 3 (July 1, 2000): 279–310, <https://doi.org/10.2307/3867650>.

¹² Richard Thaler, "Toward a Positive Theory of Consumer Choice," *Journal of Economic Behavior & Organization* 1, no. 1 (March 1980): 39–60, [https://doi.org/10.1016/0167-2681\(80\)90051-7](https://doi.org/10.1016/0167-2681(80)90051-7).

¹³ Daniel Kahneman, Jack L Knetsch, and Richard H Thaler, "Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias," *Journal of Economic Perspectives* 5, no. 1 (February 1, 1991): 193–206, <https://doi.org/10.1257/jep.5.1.193>.

¹⁴ Everett L. Worthington et al., "The Religious Commitment Inventory--10: Development, Refinement, and Validation of a Brief Scale for Research and Counseling," *Journal of Counseling Psychology* 50, no. 1 (January 2003): 84–96, <https://doi.org/10.1037/0022-0167.50.1.84>.

¹⁵ Gilles Hilary and Kai Wai Hui, "Does Religion Matter in Corporate Decision Making in America?," *Journal of Financial Economics* 93, no. 3 (September 2009): 455–73, <https://doi.org/10.1016/j.jfineco.2008.10.001>.

responsibility in wealth management (Wijaya et al, 2024; Ali et al, 2025)^{16;17}. Previous studies have highlighted that religiosity may act as a mediating or moderating variable that bridges psychological factors and ethical financial behavior (Mahmood et al, 2024; Yi et al, 2026)^{18;19}.

Nevertheless, the empirical evidence remains limited on how religiosity interacts with behavioral biases among younger generations in non-Western societies. Particularly in Aceh Tamiang, Indonesia, where Islamic values are institutionally embedded within the local governance system (Qanun Syariat Islam), the relationship between behavioral biases and financial decision-making may be uniquely shaped by religious culture. Generation Z in this region occupies a distinctive position—technologically engaged yet socially bounded by moral and religious norms. This intersection of modern digital behavior and traditional religious values provides a fertile ground to explore how cognitive biases manifest and whether religiosity can mediate their effects on financial behavior.

This research thus seeks to answer the following problem: How do behavioral biases influence financial decision-making among Generation Z in Aceh Tamiang, and does religiosity mediate this relationship? The study focuses on three key behavioral biases—endowment bias, overconfidence, and herding behavior—as independent variables; religiosity as a potential mediator; and financial decision-making as the dependent construct. By integrating the Behavioral Finance Theory with the religiosity perspective, this study provides an interdisciplinary understanding of financial behavior that extends beyond the cognitive domain into moral and cultural dimensions.

Empirically, this study contributes to the enrichment of behavioral finance literature by situating the analysis in a culturally religious context, addressing the gap in how moral and spiritual constructs influence financial decision-making. Practically, the findings offer insights for policymakers, financial educators, and institutions aiming to promote ethical and sustainable financial practices among Generation Z. Theoretically, it advances the understanding of religiosity as a value-based mechanism within behavioral finance, which remains underexplored in existing research.

In summary, this study aims to examine the influence of behavioral biases on financial decision-making among Generation Z in Aceh Tamiang and to analyze the mediating role of religiosity in that relationship. The novelty of this study lies in its integration of psychological and religio-cultural dimensions, offering a nuanced perspective on financial behavior in a society where faith and technology coexist. Through this approach, the research bridges the gap between Western-based behavioral finance theory and the socio-religious realities of emerging economies, contributing both theoretically and contextually to modern behavioral finance scholarship.

Method

This study adopts a quantitative research approach using a survey method (Creswell, 2014; Hair et al., 2021)^{20;21}. The quantitative approach was chosen because the objective of this research is to empirically examine the causal relationships among the variables of herding behavior, overconfidence, endowment bias, religiosity, and financial decision-making behavior of Generation Z in Aceh Tamiang Regency through statistical analysis.

¹⁶ Haykal Rafif Wijaya et al., “The Impact of Religiosity and Financial Literacy on Financial Management Behavior and Well-Being among Indonesian Muslims,” *Humanities and Social Sciences Communications* 11, no. 1 (June 25, 2024): 830, <https://doi.org/10.1057/s41599-024-03309-6>.

¹⁷ Ihsan Ali et al., “Islamic Practices and Investment Decision: The Role of Money Management Skills and Digital Financial Literacy,” *Sage Open* 15, no. 4 (October 17, 2025), <https://doi.org/10.1177/21582440251379142>.

¹⁸ Faiq Mahmood et al., “Impact of Behavioral Biases on Investment Decisions and the Moderation Effect of Financial Literacy; an Evidence of Pakistan,” *Acta Psychologica* 247 (July 2024): 104303, <https://doi.org/10.1016/j.actpsy.2024.104303>.

¹⁹ Yao Yi et al., “Investment for Better Future: The Synergy of Psychological and Cognitive Antecedents on Socially Responsible Investment,” *Acta Psychologica* 262 (February 2026): 106113, <https://doi.org/10.1016/j.actpsy.2025.106113>.

²⁰ W. John Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, ed. 4th Ed (Thousand Oaks, CA: Sage., 2014).

²¹ Joseph F. Hair et al., *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R*, Classroom Companion: Business (Cham: Springer International Publishing, 2021), <https://doi.org/10.1007/978-3-030-80519-7>.

The survey method was implemented by distributing structured questionnaires to the respondents. The questionnaire consisted of items designed to measure the research constructs using a five-point Likert scale, ranging from 1 (“strongly disagree”) to 5 (“strongly agree”). Respondents were asked to indicate their level of agreement with various statements that reflected herding behavior, overconfidence, endowment bias, religiosity, and financial decision-making behavior.

The population of this study comprises Generation Z individuals aged 15–29 years residing in Aceh Tamiang Regency. According to Kabupaten Aceh Tamiang dalam Angka 2024, there are 80,586 individuals within this age group. The sample size was determined using the Slovin formula with a 5% margin of error, resulting in 398.024, which was rounded to 400 respondents (Sekaran & Bougie, 2020)²². Sampling was carried out using the accidental random sampling technique, ensuring that every individual within the population had an equal chance of being selected.

Prior to the full survey, a pilot test was conducted on 30 Generation Z respondents outside the main sample to assess the validity and reliability of the questionnaire (Hair et al., 2021)²³. In addition to the questionnaire, semi-structured interviews were conducted with selected respondents to gain deeper insights into their financial behavior, thereby enriching the interpretation of quantitative findings (Creswell, 2014)²⁴. These insights are expected to provide valuable implications for local government and financial institutions in developing strategies to improve financial literacy and decision-making awareness among Generation Z in Aceh Tamiang.

The research model consists of three independent variables—Herding Behavior (X_1), Overconfidence (X_2), and Endowment Bias (X_3); one mediating variable—Religiosity (M); and one dependent variable—Financial Decision-Making Behavior (Y). All variables were measured using the 5-point Likert scale as previously mentioned.

For data analysis, the study employs the Partial Least Squares Structural Equation Modeling (PLS-SEM) technique, as it is suitable for predictive and exploratory models involving mediating variables and complex relationships (Hair et al., 2021; Sarstedt et al., 2022)^{25,26}. The PLS-SEM approach enables simultaneous testing of measurement and structural models to assess the strength and significance of direct and indirect effects among constructs.

To examine the mediating effect of religiosity, the Sobel test was applied to evaluate the significance of the indirect path between behavioral biases (herding behavior, overconfidence, and endowment bias) and financial decision-making (Baron & Kenny, 1986; Preacher & Hayes, 2008)^{27,28}. The Sobel test computes the Z-score based on the standard error of the indirect effect, where a z-value greater than 1.96 at the 5% significance level indicates a statistically significant mediation effect. All analyses were performed using SmartPLS software, which supports bootstrapping for robust testing of mediation effects.

Results and Discussion

The following section presents the outcomes of both the measurement model and the structural model analyses, conducted using the Partial Least Squares (SmartPLS) approach based on algorithmic computation and the bootstrapping procedure. This analysis provides predictive insights into the relationships among latent variables within the inner model, preceded by an evaluation of the outer model to ensure indicator validity.

²² U. Sekaran and R. Bougie, *Research Methods for Business, A Skill-Building Approach*, 5th ed (Wiley, 2020).

²³ Hair et al., *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R*.

²⁴ W. John Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, Manual Therapy*, vol. 16, 2014, <https://doi.org/10.1016/j.math.2010.09.003>.

²⁵ Hair et al., *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R*.

²⁶ Marko Sarstedt et al., “Progress in Partial Least Squares Structural Equation Modeling Use in Marketing Research in the Last Decade,” *Psychology & Marketing* 39, no. 5 (May 27, 2022): 1035–64, <https://doi.org/10.1002/mar.21640>.

²⁷ Reuben M. Baron and David A. Kenny, “The Moderator–Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations,” *Journal of Personality and Social Psychology* 51, no. 6 (1986): 1173–82, <https://doi.org/10.1037/0022-3514.51.6.1173>.

²⁸ Kristopher J. Preacher and Andrew F. Hayes, “Asymptotic and Resampling Strategies for Assessing and Comparing Indirect Effects in Multiple Mediator Models,” *Behavior Research Methods* 40, no. 3 (August 2008): 879–91, <https://doi.org/10.3758/BRM.40.3.879>.

The measurement model serves to verify the validity and reliability of the indicators for each latent construct, thereby allowing the subsequent testing of relationships between constructs. During the computation process, several indicators with loading coefficients below the acceptable threshold ($\lambda \leq 0.700$) were excluded to achieve a well-fitted model. The results of both the measurement and structural model evaluations, obtained through the PLS algorithm and bootstrapping estimation, are illustrated in Figure 1.

Convergent validity refers to the degree to which indicators of a construct are positively correlated with one another. In evaluating the convergent validity of a reflective measurement model, two main criteria are considered: outer indicator reliability and the Average Variance Extracted (AVE). Indicator reliability is assessed through the outer loading (λ) values, where a high outer loading indicates that the indicator shares a substantial amount of variance with its underlying construct (Hair et al., 2017) ²⁹.

Hair et al., (2019) ³⁰ recommend that outer loading values exceed 0.708, as this threshold suggests that the construct explains more than 50 percent of the indicator's variance. Another important criterion for assessing convergent validity is the AVE, which represents the average amount of variance explained by the indicators of a construct. Hair et al., (2019) ³¹ suggest that an acceptable AVE value should be ≥ 0.50 , indicating that the construct accounts for at least 50% of the variance of its indicators (Hair et al., 2017) ³². The results of the convergent validity test for all constructs in this study can be seen in Table 1.

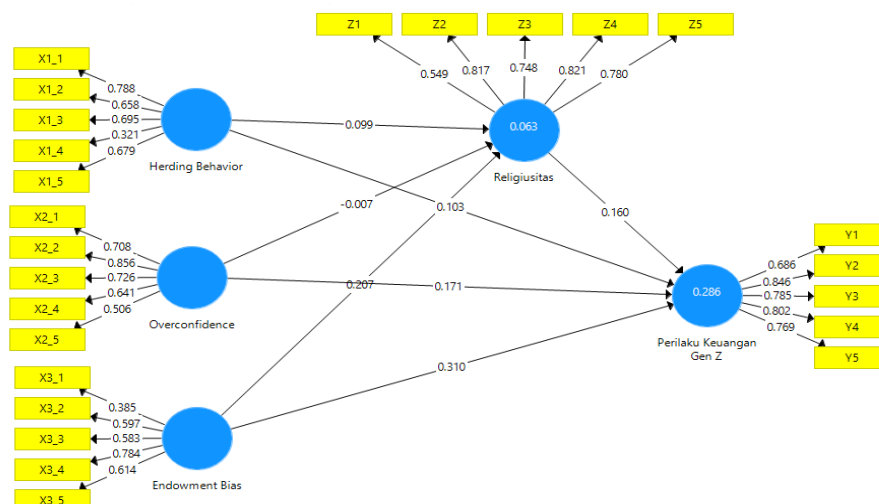


Figure 1. Result of Model Evaluation

Table 1. Result of Convergent Validity Testing

Variable	Indicator	Outer Loading	AVE	Conclusion
Herding Behavior (X1)	X1_1	0.788	0.420	Valid
	X1_2	0.658		Not Valid
	X1_3	0.695		Not Valid
	X1_4	0.321		Not Valid
	X1_5	0.679		Not Valid
Overconfidence (X2)	X2_1	0.708	0.486	Valid

²⁹ Hair et al., *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, Sage, 2017.

³⁰ Joseph F. Hair et al., "When to Use and How to Report the Results of PLS-SEM," *European Business Review* 31, no. 1 (January 14, 2019): 2–24, <https://doi.org/10.1108/EBR-11-2018-0203>.

³¹ Hair et al. "When to Use and How to Report the Results of PLS-SEM," *European Business Review* 31, no. 1 (January 14, 2019): 2–24, <https://doi.org/10.1108/EBR-11-2018-0203>

³² Hair et al., *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*.

Variable	Indicator	Outer Loading	AVE	Conclusion
Endowment Bias (X3)	X2_2	0.856	0.367	Valid
	X2_3	0.726		Valid
	X2_4	0.641		Not Valid
	X2_5	0.506		Not Valid
	X3_1	0.385		Not Valid
	X3_2	0.597		Not Valid
	X3_3	0.583		Not Valid
	X3_4	0.784		Valid
Religiosity (Z)	X3_5	0.614	0.562	Not Valid
	Z_1	0.549		Not Valid
	Z_2	0.817		Valid
	Z_3	0.748		Valid
	Z_4	0.821		Valid
Financial Behavior of Gen Z (Y)	Z_5	0.780	0.607	Valid
	Y_1	0.686		Not Valid
	Y_2	0.846		Valid
	Y_3	0.785		Valid
	Y_4	0.802		Valid
	Y_5	0.769		Valid

Table 2. Result of Discriminant Validity Values (Cross-Loading)

Indicator	Endowment Bias	Herding Behavior	Overconfidence	Financial Behavior of Gen Z	Religiosity
X1_1	0.206	0.788	0.199	0.288	0.138
X1_2	0.235	0.658	0.323	0.127	0.141
X1_3	0.170	0.695	0.318	0.165	-0.018
X1_4	0.119	0.321	0.221	-0.008	-0.012
X1_5	0.256	0.679	0.334	0.179	0.137
X2_1	0.383	0.252	0.708	0.325	0.001
X2_2	0.419	0.325	0.856	0.405	0.196
X2_3	0.358	0.234	0.726	0.181	0.116
X2_4	0.311	0.309	0.641	0.166	0.079
X2_5	0.329	0.266	0.506	0.114	-0.003
X3_1	0.385	0.213	0.337	0.080	0.046
X3_2	0.597	0.273	0.480	0.251	0.023
X3_3	0.583	0.267	0.435	0.228	0.188
X3_4	0.784	0.168	0.275	0.438	0.226
X3_5	0.614	0.118	0.205	0.263	0.128
Y1	0.281	0.270	0.194	0.686	0.114
Y2	0.358	0.223	0.285	0.846	0.249
Y3	0.412	0.225	0.406	0.785	0.152
Y4	0.402	0.171	0.289	0.802	0.289

Indicator	Endowment Bias	Herding Behavior	Overconfidence	Financial Behavior of Gen Z	Religiosity
Y5	0.346	0.259	0.320	0.769	0.239
Z1	0.016	0.131	0.014	0.111	0.549
Z2	0.192	0.140	0.134	0.220	0.817
Z3	0.207	0.034	0.085	0.169	0.748
Z4	0.205	0.165	0.158	0.267	0.821
Z5	0.186	0.126	0.069	0.209	0.780

Table 2 presents the results of the discriminant validity assessment using the Fornell–Larcker Criterion and the cross-loading analysis. The findings indicate that all constructs satisfy the Fornell–Larcker criterion, where the square root of the AVE for each construct is higher than its correlations with other constructs in the model. This result confirms that each latent variable is empirically distinct and adequately represents its respective indicators.

Furthermore, the cross-loading results show that each indicator has a higher loading on its corresponding latent construct than on any other construct. This suggests that the indicators consistently measure the intended variables and that no substantial cross-loading issues are present. Thus, the results collectively demonstrate that the discriminant validity of the model has been achieved, ensuring that the latent constructs are statistically independent and conceptually distinct from one another.

Reliability testing is conducted to determine whether the research instrument demonstrates consistency and dependability in measuring the variables under study (Neuman, 2014) ³³. A research instrument can be considered reliable if respondents' answers to the measurement items show continuous consistency, accuracy, and precision over time. Based on the calculation results in Table 3. The reliability of the instrument is assessed through Composite Reliability (CR) and Cronbach's Alpha, which reflect the internal consistency of the measurement items (Hair et al., 2017) ³⁴.

Table 3. Results of Reliability Values

Variable	Cronbach's Alpha	Composite Reliability	Conclusion
Endowment Bias	0.606	0.735	Not Reliable
Herding Behavior	0.706	0.773	Reliable
Overconfidence	0.752	0.821	Reliable
Financial Behavior of Gen Z	0.838	0.885	Reliable
Religiosity	0.807	0.863	Reliable

Table 4. Significance Test Results of Structural Model Path Coefficients

Relationship	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Conclusion
Endowment Bias → Financial Behavior of Gen Z	0.310	0.317	0.081	3.818	0.000	Significant
Endowment Bias → Religiosity	0.207	0.201	0.112	1.844	0.067	Not Significant
Herding Behavior → Financial Behavior of Gen Z	0.103	0.108	0.074	1.402	0.163	Not Significant

³³ W. Lawrence Newman, *Social Research Methods: Qualitative and Quantitative Approaches*, Seventh Ed (England: UK: Pearson, 2014).

³⁴ Hair et al., *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*.

Relationship	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Conclusion
Herding Behavior → Religiosity	0.099	0.118	0.110	0.903	0.368	Not Significant
Overconfidence → Financial Behavior of Gen Z	0.171	0.187	0.074	2.303	0.022	Significant
Overconfidence → Religiosity	-0.007	-0.001	0.100	0.075	0.940	Not Significant
Religiosity → Financial Behavior of Gen Z	0.160	0.152	0.074	2.171	0.031	Significant

Cronbach's Alpha is one of the most widely used indicators for evaluating the overall reliability of a scale, with a generally accepted minimum threshold value of 0.70. Based on the results, however, not all variables in this study meet the reliability standard, indicating that some constructs exhibit lower internal consistency and require further refinement for future measurement.

The structural model evaluation was conducted to assess the relationships between latent constructs using four main indicators: path coefficients, t-statistics, p-values, and the R-square values. These indicators were obtained through the bootstrapping procedure in SmartPLS. The significance test of the structural model was conducted using the bootstrapping method. According to Hair et al. (2017)³⁵, the rules for bootstrapping include: The minimum number of bootstrap samples must be at least equal to the number of valid observations, which in this study amounts to 103 samples. The critical value for a two-tailed test is 1.96 (at a 5 percent significance level). A p-value < 0.05 indicates statistical significance at a 95% confidence level. The results of the bootstrapping test on the path coefficients of the structural model and total effects are presented in Table 4, following the criteria established by Hair et al. (2017)³⁶.

The coefficient of determination (R^2) represents the predictive accuracy of the model and is calculated as the squared correlation between the actual and predicted values of endogenous constructs. It indicates the combined effect of exogenous latent variables on endogenous latent variables. In general, an R^2 value of 0.75 is considered substantial, 0.50 is moderate, and 0.25 is weak (Hair et al., 2017)³⁷. Meanwhile, Q^2 (Stone–Geisser's value) serves as an indicator of the model's predictive relevance. In the structural model, a $Q^2 > 0$ suggests that the exogenous constructs have predictive relevance for the endogenous constructs being analyzed. The Q^2 value is obtained using the blindfolding procedure, which measures the cross-validated redundancy of each endogenous construct.

The results of the coefficient of determination (R^2) and Stone–Geisser's predictive relevance (Q^2) that presented in Table 5. The table demonstrates that the R^2 value for Financial Behavior of Gen Z (0.468) indicates that approximately 46.8% of the variance in financial behavior can be explained by Endowment Bias, Overconfidence, Herding Behavior, and Religiosity. This value represents a moderate level of predictive accuracy, suggesting that the model has sufficient explanatory power in predicting Gen Z's financial behavior. In contrast, the R^2 value for Religiosity (0.041) shows a relatively weak predictive capability, implying that behavioral biases have a limited influence on religiosity levels among Gen Z respondents. The Q^2 values, which are all greater than zero, confirm that the model possesses adequate predictive relevance (Hair et al., 2017)³⁸.

Table 5. Coefficient of Determination (R^2) and Predictive Relevance (Q^2)

Endogenous Construct	R^2	Q^2	Interpretation
Religiosity	0.041	0.023	Weak predictive accuracy
Financial Behavior of Gen Z	0.468	0.311	Moderate predictive accuracy

³⁵ Hair et al.

³⁶ Hair et al.

³⁷ Hair et al.

³⁸ Hair et al.

Table 6. Results of Effect Size (f^2) Testing

Construct	Endowment Bias	Herding Behavior	Overconfidence	Financial Behavior of Gen Z	Religiosity
Endowment Bias	—	—	—	0.095	0.033
Herding Behavior	—	—	—	0.012	0.009
Overconfidence	—	—	—	0.028	0.000
Financial Behavior of Gen Z	—	—	—	—	—
Religiosity	—	—	—	0.034	—

The effect size (f^2) test measures the extent to which an exogenous construct contributes to the R^2 value of an endogenous latent variable. In other words, f^2 assesses the impact strength of each predictor variable on the dependent variable within the structural model. According to Hair et al. (2017)³⁹, the guideline values for interpreting effect size are as follows: 0.02 = small effect, 0.15 = medium effect, and 0.35 = large effect. An f^2 value greater than zero indicates that removing a particular exogenous variable from the model will reduce the R^2 value of the endogenous variable, implying that the construct has a meaningful contribution to the model's explanatory power. The results of the f^2 testing for this study are presented in Table 6, which summarizes the magnitude of the effect size of each exogenous construct on the endogenous variables Financial Behavior of Gen Z and Religiosity.

The structural model analysis aims to evaluate the hypothesized relationships among the latent variables, including direct and indirect effects, as formulated in the research framework. Using the bootstrapping procedure with 5,000 subsamples in SmartPLS, the path coefficients, t-statistics, and p-values were estimated to determine the significance of each hypothesized relationship. Following Hair et al. (2017)⁴⁰, a relationship is considered statistically significant if the t-statistic exceeds 1.96 and the p-value is less than 0.05 at a 95% confidence level.

The results of the structural model testing are presented in Table 4, which summarizes the original sample estimates, mean sample values, standard deviations, and significance levels for each hypothesized path. The findings summarized in Table 4 reveal several important relationships among the key constructs of the model.

First, Endowment Bias shows a positive and significant effect on the financial behavior of Generation Z ($\beta = 0.310$, $t = 3.818$, $p < 0.001$). This indicates that individuals who exhibit stronger endowment bias tendencies—such as overvaluing their owned assets or financial choices—are more likely to display distinctive financial decision-making behaviors. This finding aligns with Thaler's (1980)⁴¹ and Kahneman et al.'s (1991)⁴² theoretical propositions that psychological ownership shapes financial actions and valuations. However, the path between Endowment Bias and Religiosity ($\beta = 0.207$, $p = 0.067$) was not statistically significant, implying that cognitive biases such as the endowment effect do not necessarily correlate with higher or lower religiosity levels. This suggests that religiosity among Gen Z in Aceh Tamiang functions independently from behavioral biases and may be more deeply rooted in cultural and moral values rather than psychological tendencies.

The effect of Herding Behavior on financial behavior ($\beta = 0.103$, $p = 0.163$) was also found to be insignificant, suggesting that social imitation or conformity tendencies do not strongly influence Gen Z's financial decision-making within this context. This contrasts with findings by Banerjee (1992)⁴³ and Bikhchandani & Sharma (2000)⁴⁴, who identified herding as a major determinant in collective market decisions. One plausible explanation is that Generation Z in Aceh Tamiang, while digitally active, may rely more on personal intuition or cultural-religious norms than peer influence in financial matters.

³⁹ Hair et al.

⁴⁰ Hair et al.

⁴¹ Thaler, "Toward a Positive Theory of Consumer Choice."

⁴² Kahneman, Knetsch, and Thaler, "Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias."

⁴³ Banerjee, "A Simple Model of Herd Behavior."

⁴⁴ Bikhchandani and Sharma, "Herd Behavior in Financial Markets."

Similarly, Overconfidence demonstrates a significant positive effect on financial behavior ($\beta = 0.171$, $t = 2.303$, $p = 0.022$). This confirms prior research by Odean (1998)⁴⁵ and Pompian (2012)⁴⁶, showing that excessive confidence in one's knowledge or predictive ability leads individuals to engage actively in financial decisions, often without sufficient consideration of risks. Although overconfidence may encourage financial initiative, it also increases the potential for misjudgment or impulsive decisions. The relationship between Overconfidence and Religiosity ($\beta = -0.007$, $p = 0.940$) is non-significant, implying that an individual's confidence in their financial knowledge is not influenced by religious beliefs. This supports the notion that religiosity and cognitive confidence operate as distinct constructs.

Finally, Religiosity itself has a significant positive influence on Gen Z's financial behavior ($\beta = 0.160$, $t = 2.171$, $p = 0.031$). This finding underscores the importance of moral and ethical considerations in shaping responsible financial behavior. It supports prior research by Hilary and Hui (2009)⁴⁷ and Wijaya (2024)⁴⁸, who found that religiosity promotes self-regulation and ethical financial decision-making. In the context of Aceh Tamiang, where Islamic principles are integrated into social and economic life, religiosity may act as a moral compass that guides Gen Z toward prudent financial management and away from speculative or impulsive behavior.

In summary, the results validate three significant paths—Endowment Bias → Financial Behavior, Overconfidence → Financial Behavior, and Religiosity → Financial Behavior—while other paths were not statistically significant. This suggests that individual-level cognitive and moral factors exert stronger influence on Gen Z's financial decision-making than social imitation tendencies such as herding behavior. The findings contribute to the growing literature on behavioral finance by demonstrating that in culturally religious contexts, financial behavior is shaped more by internalized beliefs and cognitive biases than by external social pressures.

Discussions

The results of this study provide empirical evidence regarding the influence of behavioral biases and religiosity on the financial decision-making behavior of Generation Z in Aceh Tamiang. The analysis reveals that Endowment Bias, Overconfidence, and Religiosity have a significant direct effect on financial behavior, while Herding Behavior does not. Furthermore, Religiosity does not serve as a mediating variable between behavioral biases and financial behavior, but rather functions as an independent moral value that shapes prudent and ethical decision-making.

The significant effect of Endowment Bias on financial behavior among Gen Z supports the theory of Behavioral Finance introduced by Thaler (1980)⁴⁹ and expanded by Kahneman et al. (1991)⁵⁰, which posits that individuals tend to overvalue assets they already own, leading to suboptimal financial decisions. This finding aligns with the studies of Ericson and Fuster (2013)⁵¹ as well Halder & Milan. (2024)⁵², who emphasized that emotional attachment to owned assets can distort rational decision-making. In the context of Gen Z in Aceh Tamiang, such bias might manifest in their tendency to retain savings or investments longer due to psychological attachment, rather than objective market reasoning. The study also found that Overconfidence has a positive and significant effect on financial behavior, confirming previous empirical

⁴⁵ Terrance Odean, "Are Investors Reluctant to Realize Their Losses?," *The Journal of Finance* 53, no. 5 (October 17, 1998): 1775–98, <https://doi.org/10.1111/0022-1082.00072>.

⁴⁶ Michael M. Pompian, ed., *Behavioral Finance and Investor Types* (Wiley, 2012), <https://doi.org/10.1002/9781119202417>.

⁴⁷ Hilary and Hui, "Does Religion Matter in Corporate Decision Making in America?"

⁴⁸ Wijaya et al., "The Impact of Religiosity and Financial Literacy on Financial Management Behavior and Well-Being among Indonesian Muslims."

⁴⁹ Thaler, "Toward a Positive Theory of Consumer Choice."

⁵⁰ Kahneman, Knetsch, and Thaler, "Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias."

⁵¹ Keith M. Marzilli Ericson and Andreas Fuster, "The Endowment Effect" (Cambridge, MA, August 2013), <https://doi.org/10.3386/w19384>.

⁵² Papi Halder and Prof (Dr.) Ram Milan, "Challenges of Behavioral Finance in Investment Decision Making," *International Journal of Research and Scientific Innovation* XI, no. V (2024): 1028–34, <https://doi.org/10.51244/IJRSI.2024.1105068>.

findings by Odean (1998)⁵³ and Pompian (2012)⁵⁴ that overconfident individuals are more likely to engage in active financial decisions. This is consistent with the findings of Tasman et al. (2024)⁵⁵, who observed that overconfident Gen Z investors tend to underestimate financial risks. However, while overconfidence can stimulate initiative and engagement in financial activities, excessive self-assurance may lead to impulsive or speculative decision-making, especially in a digital environment characterized by rapid information flows and social media influence (Armansyah et al., 2023)⁵⁶. Contrary to expectations, Herding Behavior did not show a significant relationship with financial decision-making. This contrasts with prior research by Banerjee (1992)⁵⁷ and Bikhchandani & Sharma (2000)⁵⁸, which identified herding as a strong determinant of collective market actions. In the present context, the non-significance of herding may indicate that Gen Z in Aceh Tamiang tend to make financial decisions independently, guided more by personal beliefs and values than by peer influence. This finding is consistent with studies by Rahmawati & Raharja (2024)⁵⁹ and Untuwene & Sibilang (2024)⁶⁰, which noted that the herding effect is often moderated by contextual factors such as financial literacy and cultural orientation.

The positive and significant effect of Religiosity on financial behavior underscores the importance of ethical and spiritual values in shaping financial decisions. This finding is in line with Hilary and Hui (2009)⁶¹ and supported by Patrisia et al. (2023)⁶², who found that Islamic financial literacy and religiosity enhance self-discipline and responsible financial behavior among young Muslims. Similarly, Nuwailah et al. (2025)⁶³ and Purwadani & Ridlwan (2022)⁶⁴ found that religiosity fosters ethical awareness and reduces impulsive consumption tendencies. In Aceh Tamiang—an area with a strong Islamic cultural identity—religiosity appears to serve as a moral compass that guides Gen Z toward ethical consumption, risk aversion, and balanced financial management. Interestingly, religiosity did not mediate the relationship between behavioral biases and financial behavior, which suggests that its influence operates as a direct personal value rather than a bridging mechanism. This aligns with findings by Latipah et al. (2024)⁶⁵, who found that religiosity moderates but does not always mediate financial decisions among Muslim millennials. Thus, religiosity may independently shape behavior by instilling moral consciousness and long-term prudence, rather than altering the effects of cognitive biases themselves. Overall, the findings contribute to the

⁵³ Odean, “Are Investors Reluctant to Realize Their Losses?”

⁵⁴ Pompian, *Behavioral Finance and Investor Types*.

⁵⁵ Abel Tasman et al., “An Analysis of Investment Decisions among Gen Z: Examining the Influence of Risk Perception, Religiosity, and Overconfidence,” *Jurnal Ekonomika Dan Bisnis (JEBS)* 4, no. 2 (May 18, 2024): 188–94, <https://doi.org/10.47233/jebis.v4i2.1645>.

⁵⁶ Rohmad Fuad Armansyah, Herwin Ardianto, and Chitra Laksmi Rithmaya, “UNDERSTANDING GEN Z INVESTMENT DECISIONS: CAPITAL MARKET LITERACY AND EMOTIONAL BIASES,” *Jurnal Manajemen Dan Kewirausahaan* 25, no. 2 (October 2, 2023): 105–19, <https://doi.org/10.9744/jmk.25.2.105-119>.

⁵⁷ Banerjee, “A Simple Model of Herd Behavior.”

⁵⁸ Bikhchandani and Sharma, “Herd Behavior in Financial Markets.”

⁵⁹ Rahmawati and Raharja, “Investment Decision-Making With Fear of Missing Out As a Mediating Variable Among Generation Z Investors.”

⁶⁰ Maria Ester Runtuwene and Novie P Sibilang, “The Influence of Herding Behavior and Confirmation Bias on Investment Decision in Generation Z with Gender as Moderating Variable,” *Klabat Accounting Review* 5, no. 2 (September 30, 2024): 111, <https://doi.org/10.60090/kar.v5i2.1128.111-122>.

⁶¹ Hilary and Hui, “Does Religion Matter in Corporate Decision Making in America?”

⁶² Dina Patrisia et al., “Generation Z’s Financial Behaviour: The Role of Islamic Financial Literacy,” *ISRA International Journal of Islamic Finance* 15, no. 2 (May 23, 2023): 20–37, <https://doi.org/10.55188/ijif.v15i2.540>.

⁶³ Nuwailah, Jaenal Effendi, and Wita Juwita Ermawati, “Young Muslims’ Financial Behavior: Money Attitudes and Financial Literacy by Debt Status,” *Review on Islamic Accounting* 4, no. 2 (February 28, 2025), <https://doi.org/10.58968/ria.v4i2.603>.

⁶⁴ Eldiana Purwadani and Ahmad Ajib Ridlwan, “Millennial Intention to Pay Zakat: The Effect of Religiosity and Attitudes,” *ZISWAF: JURNAL ZAKAT DAN WAKAF* 9, no. 1 (June 30, 2022): 73, <https://doi.org/10.21043/ziswaf.v9i1.15150>.

⁶⁵ Yeni Latipah, Indri Supriani, and Heri Sudarsono, “WHAT DRIVES THE INTENTION OF MILLENNIALS AND GENERATION Z TO PAY ZIS VIA DIGITAL PLATFORM? RELIGIOSITY AS THE MODERATING VARIABLE,” *Jurnal Ekonomi Dan Bisnis Islam (Journal of Islamic Economics and Business)* 10, no. 2 (November 30, 2024), <https://doi.org/10.20473/jebis.v10i2.62338>.

growing literature on behavioral finance by confirming that cognitive and emotional biases—particularly endowment and overconfidence—remain influential determinants of individual financial behavior (Kahneman et al., 1991; Pompian, 2012) ^{66;67}.

However, the absence of herding effects and the strong direct role of religiosity provide an important cultural extension to behavioral finance theory, particularly in Muslim-majority regions. This is consistent with prior evidence from Patrisia et al. (2023) ⁶⁸ and Tasman et al. (2024) ⁶⁹, emphasizing that religiosity and cultural context significantly shape financial behavior beyond the rational-psychological framework proposed in Western literature. Theoretically, this research strengthens the Behavioral Finance Theory by integrating it with the religiosity perspective, showing that financial behavior is not only driven by psychological biases but also by moral and ethical constructs.

Practically, the findings imply that improving financial literacy among Gen Z should not only focus on cognitive awareness of biases but also on fostering spiritual and ethical dimensions in financial education. As Trivani and Soleha (2023) ⁷⁰ noted, Gen Z's financial habits are heavily influenced by their values, digital exposure, and self-control. Therefore, incorporating religious-based financial literacy modules may enhance Gen Z's ability to make rational yet morally grounded financial decisions. In the specific socio-cultural context of Aceh Tamiang, where religious norms deeply influence social and economic behavior, the interplay between behavioral biases and religiosity offers a nuanced understanding of financial decision-making. The findings highlight that while global behavioral finance theories remain relevant, local cultural and religious dynamics significantly modify the behavioral outcomes. Hence, this study contributes to expanding the cross-cultural understanding of behavioral finance and provides practical insights for policymakers and educators in designing culturally adaptive financial literacy programs targeting young generations.

Conclusion

The results of this study provide a comprehensive understanding of how behavioral biases and religiosity influence the financial decision-making behavior of Generation Z in Aceh Tamiang. The findings show that Endowment Bias, Overconfidence, and Religiosity have a significant direct effect on financial behavior, while Herding Behavior does not. These results indicate that Gen Z's financial decisions are more influenced by personal cognition and moral values than by collective social tendencies. Religiosity in this study does not act as a mediating variable but functions as an independent determinant that shapes ethical, responsible, and disciplined financial behavior. This suggests that moral and spiritual awareness plays an essential role in encouraging Gen Z to make rational and value-based financial decisions.

Overall, the study highlights that the combination of psychological and moral factors is crucial in shaping financial behavior among the young generation. The integration of behavioral and religiosity perspectives enriches the understanding of financial decision-making within the social and cultural context of Aceh Tamiang. From a practical standpoint, the results emphasize the importance of developing financial literacy programs that not only address behavioral awareness but also strengthen ethical and spiritual dimensions. By doing so, financial education for Gen Z can become more holistic, helping them to navigate financial decisions wisely, rationally, and in line with moral values.

⁶⁶ Kahneman, Knetsch, and Thaler, "Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias."

⁶⁷ Pompian, *Behavioral Finance and Investor Types*.

⁶⁸ Patrisia et al., "Generation Z's Financial Behaviour: The Role of Islamic Financial Literacy."

⁶⁹ Tasman et al., "An Analysis of Investment Decisions among Gen Z: Examining the Influence of Risk Perception, Religiosity, and Overconfidence."

⁷⁰ Gea Trivani and Erin Soleha, "The Effect of Financial Literacy, Income and Self Control on Financial Behavior Generation Z (Study on Generation Z Financial Behavior in Bekasi Regency)," *Economic Education Analysis Journal* 12, no. 1 (March 31, 2023): 69–79, <https://doi.org/10.15294/eeaj.v12i1.67452>.

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MF was responsible for writing the initial draft and served as the first author and corresponding author. SS coordinated data collection and analysis. RM and YR contributed to the validation process and interpretation of the results, as well as editing the manuscript. All four authors approved the final version of the manuscript.

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Conflict of Interest

The authors declare that they have no competing interests that could have influenced the results or interpretation of this study.

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