

RESEARCH

Received: June 19, 2026

Revised: July 30, 2026

Accepted: August 26, 2026

Achievement Motivation and Adversity Quotient on Aqidah Akhlak Outcomes: Mediated by Self-Efficacy

Lina Helwaty¹, Saefudin Zuhri², Naeila Rifatil Muna³

***Correspondence:**

Lina Helwaty
hjlinahelwaty@gmail.com

¹²³Universitas Islam Negeri Siber
Syekh Nurjati Cirebon, Jawa
Barat, Indonesia

Abstract

This study examines the hypothesized associations among achievement motivation, adversity quotient, self-efficacy, and Aqidah Akhlak learning outcomes, specifically testing the mediating role of self-efficacy in these relationships among tenth-grade students at MA NIPI Rakha Amuntai. A quantitative approach with path analysis was employed. The sample was selected through proportional random sampling based on the Slovin formula, yielding 102 respondents from a population of 143 tenth-grade students. Data were collected using validated and reliable questionnaires to measure achievement motivation, adversity quotient, and self-efficacy, while learning outcomes were obtained from students' final examination scores. The results indicate that: (1) achievement motivation is significantly positively associated with self-efficacy ($\beta = 0.412$, $*p < 0.001$); (2) adversity quotient is significantly positively associated with self-efficacy ($\beta = 0.387$, $*p < 0.001$); (3) achievement motivation shows a significant positive direct association with Aqidah Akhlak learning outcomes ($\beta = 0.298$, $*p < 0.01$); (4) adversity quotient shows a significant positive direct association with Aqidah Akhlak learning outcomes ($\beta = 0.263$, $*p < 0.01$); (5) self-efficacy shows a significant positive association with Aqidah Akhlak learning outcomes ($\beta = 0.341$, $*p < 0.001$); (6) there is a significant indirect effect of achievement motivation on learning outcomes through self-efficacy (indirect effect = 0.141, $*p < 0.01$); and (7) there is a significant indirect effect of adversity quotient on learning outcomes through self-efficacy (indirect effect = 0.132, $*p < 0.01$). These findings highlight the potential relevance of fostering students' internal psychological resources in relation to learning outcomes in Islamic religious education, suggesting that targeted interventions may be beneficial.

Keywords: Achievement Motivation, Adversity Quotient, Self-Efficacy, Aqidah Akhlak Learning Outcomes, Path Analysis

Introduction

The quality of education in Indonesian madrasahs remains a fundamental concern, particularly in the teaching of Islamic subjects such as Aqidah Akhlak. As a core subject in the madrasah curriculum, Aqidah Akhlak aims to develop students' faith-based knowledge and moral character (Ridha et al., 2024). Despite its spiritual significance, many students continue to demonstrate suboptimal learning outcomes in this subject, prompting researchers and educators to investigate the psychological factors that may predict academic achievement (Safi'i et al., 2021).

One of the key psychological determinants of academic success is achievement motivation, which refers to an individual's intrinsic drive to accomplish tasks, pursue excellence, and persist in the face of challenges (Anisah, 2023). Students with high achievement motivation are more likely to engage actively in learning activities, set ambitious academic goals, and maintain consistent effort over time. Within the context of Islamic education, this motivation may be further reinforced by religious values that emphasize the pursuit of knowledge as a spiritual obligation (Harli, 2022).

Another important psychological construct is the Adversity Quotient (AQ), which reflects an individual's capacity to withstand, respond to, and overcome adversity. AQ consists of four dimensions: Control, Origin and Ownership, Reach, and Endurance (CORE). (Zhao & Cao, 2023) Students with higher AQ tend to demonstrate greater resilience, emotional regulation, and cognitive flexibility when faced with academic challenges. Considering the academic demands and social pressures experienced by students in Islamic secondary schools, particularly those in rural settings, AQ is highly relevant for understanding students' learning trajectories (Al-Abyadh & Azeem, 2022).

A third psychological variable of interest is self-efficacy, which refers to an individual's belief in their ability to organize and execute the actions necessary to achieve specific goals. Self-efficacy is widely recognized as a psychological mechanism that mediates the relationship between motivational factors and actual academic performance (Sukarman & Marfuatin, 2022). Students with high self-efficacy approach challenges with confidence, persevere in the face of difficulties, and recover more quickly from setbacks, ultimately leading to better academic achievement (Rohman et al., 2026).

MA NIPI Rakha Amuntai, located in Hulu Sungai Utara Regency, South Kalimantan, is an Islamic senior high school with a long history, having been officially established in 1952 as part of the Rasyidiyah Khalidiyah Islamic boarding school foundation, which itself was founded in 1922. (Cai & Guo, 2024). The school holds an accreditation and has a stated vision to produce pious, knowledgeable, and independent Muslim cadres. (Aziz et al., 2014) Its reputation is supported by students' achievements in various academic competitions, including the Kompetisi Sains Madrasah (KSM) and Arabic Language Olympiads at the district level. Despite its strong academic standing, preliminary observations and a review of students' academic records revealed considerable variation in Aqidah Akhlak learning outcomes across different classes. (Cheng et al., 2024) Informal interviews with teachers also indicated noticeable differences in students' engagement, resilience, and confidence, highlighting the need for empirical investigation. (Melati et al., 2025).

Although previous studies have examined achievement motivation, adversity quotient, and self-efficacy in various educational contexts, their configurations, samples, and analytical approaches differ considerably from the present study. Ridha, Sanusi, and Mulbar (2024) analyzed the direct and indirect effects of self-regulated learning, adversity quotient, self-efficacy, and learning motivation on academic achievement among eighth-grade students at an Islamic junior high school (Madrasah Tsanawiyah) using SEM-PLS. Safi'i et al. (2021) investigated the effects of adversity quotient on student achievement, learning autonomy, and performance among Islamic senior high school students during the COVID-19 pandemic. (Jang & Lee, 2025) In higher education settings, Cai and Guo (2024) examined the mediating role of adversity quotient between student engagement and academic achievement, with self-efficacy as a moderator, among Chinese college students, while a study at the University of Mindanao found that self-efficacy did not significantly mediate the relationship between adversity quotient and academic performance. Within Islamic studies education, Islam and (Alfaaza & Darmawan, 2025). demonstrated that academic self-

efficacy mediated the relationship between problem-based learning and achievement motivation among Malaysian undergraduate Islamic studies students, and examined how adversity quotient and school engagement impact academic resilience in bilingual and Islamic boarding schools. However, no study has yet integrated achievement motivation, adversity quotient, and self-efficacy into a single path analysis model specifically explaining learning outcomes in Aqidah Akhlak (Islamic creed and morality) at the Madrasah Aliyah (Islamic senior high school) level. (Logie et al., 2023) Furthermore, while existing research has examined these variables either in general academic subjects, at the university level, or with different model specifications such as moderation rather than mediation, the specific indirect-effect model whereby self-efficacy simultaneously mediates the relationships between both achievement motivation and adversity quotient on Aqidah Akhlak learning outcomes remains unexplored. This study addresses this gap by developing a path analysis model that integrates these three psychological variables within the under-researched context of Islamic religious education at the Madrasah Aliyah level, thereby providing a more comprehensive understanding of the psychological determinants of learning outcomes in Aqidah Akhlak. (Elfida, 2022).

Achievement motivation, rooted in McClelland's (1961) Theory of Achievement Motivation and Atkinson's (1957) expectancy-value model, refers to an individual's drive to excel, persist in the face of challenges, and attain success based on internal standards of excellence. According to Bandura (1997), one of the primary sources of self-efficacy is mastery experience—past successful performances. Individuals with high achievement motivation are more likely to set challenging goals, exert sustained effort, and experience task success, which in turn strengthens their beliefs in their own capabilities. Furthermore, vicarious experience (observing similar others succeed) and verbal persuasion (encouragement from teachers) often accompany motivated behavior in educational settings, further enhancing self-efficacy. Empirical evidence supports this positive association (Islam & Zayed, 2023).

Adversity quotient, conceptualized by Stoltz (1997), measures an individual's resilience and capacity to persevere through difficulties, encompassing four dimensions: Control, Ownership, Reach, and Endurance (the CORE model). Bandura (1997) identifies emotional and physiological states as another key source of self-efficacy; individuals who can manage stress, anxiety, and frustration during challenging tasks are more likely to interpret their emotional arousal as a facilitator rather than an impediment to performance. Those with a high adversity quotient tend to maintain emotional equilibrium, take personal responsibility for setbacks, and limit the perceived reach of adversities, thereby preserving their confidence in their abilities (Cai & Guo, 2024). This resilience-oriented interpretation directly strengthens self-efficacy beliefs. Therefore, we hypothesize:

Beyond their influence through self-efficacy, both achievement motivation and adversity quotient are theorized to exert direct effects on academic learning outcomes. According to McClelland (1961), achievement motivation drives individuals to engage in tasks with moderate difficulty, persist longer, and seek feedback all of which directly enhance learning and performance. Similarly, Stoltz's (1997) adversity quotient theory posits that resilient students are better equipped to overcome academic obstacles, maintain focus during challenging lessons, and adapt their learning strategies, leading to superior academic outcomes even in the absence of high confidence. Several studies have documented these direct paths (Ridha et al., 2024; Safi'i et al., 2021).

Bandura (1997) posits that self-efficacy influences academic outcomes through four major processes: cognitive (goal setting, self-appraisal), motivational (effort attribution,

perseverance), affective (anxiety management), and selection (choice of challenging tasks). Students with higher self-efficacy in Islamic religious education are more likely to engage deeply with Aqidah Akhlak materials, persist when encountering complex moral or theological concepts, and employ effective learning strategies, ultimately yielding higher examination scores (Islam & Zayed, 2023).

Within Bandura's (1986) Social Cognitive Theory, self-efficacy is positioned as a proximal psychological mechanism that translates distal personal dispositions (such as motivation and resilience) into actual behavioral performance. This mediating function operates through two interrelated pathways. First, achievement motivation fosters sustained effort, goal-directed behavior, and mastery experiences, which build self-efficacy; this heightened confidence subsequently promotes deeper engagement with learning materials, resulting in improved outcomes. Second, a high adversity quotient enables students to manage academic stress, maintain control over setbacks, and preserve a positive emotional state—all of which strengthen self-efficacy and this enhanced belief in their capabilities then facilitates better performance on Aqidah Akhlak assessments (Cai & Guo, 2024). Consequently, while achievement motivation and adversity quotient may have direct effects on learning outcomes, a substantial portion of their influence is transmitted indirectly through self-efficacy.

Method

Research Design

This study employed a quantitative approach using a path analysis design to examine the hypothesized direct and indirect associations among the research variables. Path analysis was selected because it is appropriate for testing theoretically specified structural models that posit directional relationships among variables. The study was conducted at MA NIPI Rakha Amuntai, Hulu Sungai Utara Regency, South Kalimantan, Indonesia, during the 2025/2026 academic year. However, given the cross-sectional nature of the data—where all variables were measured at a single time point without experimental manipulation, random assignment, or longitudinal tracking—it is important to acknowledge that path analysis can only estimate statistical associations and indirect effects under the assumed theoretical model; it cannot establish causal relationships. Although the directional paths in the model are theoretically grounded in Social Cognitive Theory and related frameworks (Bandura, 1986; McClelland, 1961; Stoltz, 1997), the data themselves do not establish temporal precedence nor rule out unmeasured confounding variables. Accordingly, all findings reported in this study are interpreted as associational and predictive rather than causal. The direct, indirect, and total effects reported represent statistical decompositions of covariances within the hypothesized model, not definitive proof of causal mechanisms. To strengthen causal inference, future research employing experimental or longitudinal designs is strongly recommended.

Several limitations should be considered when interpreting the findings. First and foremost, the cross-sectional design precludes any definitive causal conclusions. Although the path analysis tested a theoretically informed directional model derived from established psychological theories, the data were collected at a single time point, which means that temporal precedence among the variables cannot be established, and the possibility of reverse causality or unmeasured third variables cannot be ruled out. Therefore, all associations reported in this study should be interpreted as correlational and predictive rather than causal. Future research employing longitudinal designs, experimental interventions, or quasi-experimental approaches would be necessary to test causal claims more rigorously. Second,

the study relied on self-reported questionnaire data for achievement motivation, adversity quotient, and self-efficacy, which may be subject to social desirability bias, recall bias, and common method variance, potentially inflating the observed associations. Third, the sample was limited to tenth-grade students at a single Madrasah Aliyah institution in South Kalimantan, which may constrain the generalizability of the findings to other educational levels, regions, or cultural contexts. Future studies with larger and more diverse samples across multiple Islamic schools are encouraged to validate and extend these findings.

Population and Sample

The population consisted of all tenth-grade students enrolled at MA NIPI Rakha Amuntai during the 2025/2026 academic year, totaling 143 students distributed across four classes (Class A = 36, Class B = 36, Class C = 36, and Class D = 35). To determine the initial sample size, the Slovin formula was applied with a 5% margin of error, yielding a minimum target of approximately 105 respondents. Proportional random sampling was then employed to allocate the sample across the four classes based on their respective sizes. This allocation resulted in a target of 104 participants (26 students from each of the three larger classes and 26 from the smaller class, after rounding). However, on the day of data collection, two students were absent and could not be rescheduled, resulting in a final sample of 102 complete and valid responses. To provide a more robust statistical justification beyond the Slovin formula, an *a priori* power analysis was conducted using G*Power 3.1 (Faul et al., 2009) for a linear multiple regression model with a maximum of three predictor variables representing the most complex path in the proposed mediation model. Assuming a medium effect size ($f^2 = 0.15$), an alpha level of 0.05, and a desired statistical power of 0.80, the analysis indicated a minimum required sample size of 77 participants. With a final sample of 102 respondents, this study exceeds the minimum requirement, confirming adequate statistical power to detect the hypothesized associations in the path model.

Research Instruments

Three questionnaire-based instruments were employed in this study. Each instrument was developed from established theoretical frameworks and adapted to the context of Islamic education through a systematic translation and validation procedure.

Achievement Motivation Scale (AMS)

The Achievement Motivation Scale was adapted from the Achievement Motivation Inventory developed by Muthee and Thomas (2009), which was originally grounded in McClelland's (1961) theory of achievement motivation. The scale consisted of 28 items measuring five dimensions: need for achievement, persistence, competitiveness, goal orientation, and self-improvement. The instrument was translated into Indonesian using a forward-backward translation procedure following the International Test Commission (2017) guidelines for cross-cultural adaptation of self-report measures. Two expert reviewers one specializing in educational psychology and one in Islamic education evaluated the content validity of the adapted items, assessing relevance, representativeness, and clarity on a four-point scale. The content validity index (CVI) at the item level (I-CVI) ranged from 0.83 to 1.00, and the scale-level CVI (S-CVI/Ave) was 0.92, indicating excellent content validity. To confirm the retention of the intended five-dimensional structure, a confirmatory factor analysis (CFA) was conducted. The measurement model demonstrated acceptable fit: $\chi^2/df = 2.14$, CFI = 0.912, TLI = 0.901, RMSEA = 0.068, and SRMR = 0.059. All factor loadings exceeded 0.40, and the average

variance extracted (AVE) for each dimension ranged from 0.51 to 0.63, supporting convergent validity. Discriminant validity was established as the square root of the AVE for each dimension exceeded the inter-dimension correlations. The instrument demonstrated high internal consistency, with a Cronbach's alpha coefficient of 0.879 for the total scale and subscale alphas ranging from 0.76 to 0.84.

Adversity Quotient Scale (AQS).

The Adversity Quotient Scale was adapted from Stoltz's (1997) Adversity Response Profile (ARP), which operationalizes the adversity quotient construct through four CORE dimensions: Control, Origin and Ownership, Reach, and Endurance. The instrument comprised 32 items assessing these four dimensions. The adaptation process followed the same forward-backward translation and expert-review procedure described above. Content validity was evaluated by the same two expert reviewers, yielding an I-CVI ranging from 0.80 to 1.00 and an S-CVI/Ave of 0.91. A confirmatory factor analysis was performed to verify the four-factor structure of the CORE model. The CFA results showed adequate model fit: $\chi^2/df = 1.98$, CFI = 0.921, TLI = 0.908, RMSEA = 0.062, and SRMR = 0.055. Factor loadings ranged from 0.44 to 0.78, and the AVE values for the four dimensions ranged from 0.49 to 0.61. Discriminant validity was confirmed as the square root of the AVE for each dimension exceeded the inter-dimension correlations. The instrument achieved a Cronbach's alpha coefficient of 0.891 for the total scale, with subscale alphas ranging from 0.78 to 0.86, indicating excellent reliability. This adapted version has been previously used in Indonesian madrasah populations.

Self-Efficacy Scale (SES).

The Self-Efficacy Scale was adapted from the General Self-Efficacy Scale (GSES) developed by Schwarzer and Jerusalem (1995), which is one of the most widely validated self-efficacy measures cross-culturally. The Indonesian version of the GSES has been previously adapted and validated in Indonesian educational contexts. The scale consisted of 10 items measuring general self-efficacy beliefs. The same translation and adaptation procedures were followed. Expert content validation yielded an I-CVI ranging from 0.85 to 1.00 and an S-CVI/Ave of 0.93. A confirmatory factor analysis confirmed the unidimensional structure of the scale, with satisfactory model fit indices: $\chi^2/df = 2.08$, CFI = 0.935, TLI = 0.918, RMSEA = 0.059, and SRMR = 0.048. Factor loadings ranged from 0.52 to 0.81, and the AVE was 0.54, supporting convergent validity. The scale demonstrated good internal consistency, with a Cronbach's alpha coefficient of 0.862. This adapted version has been validated for use with Indonesian senior high school populations.

For all three instruments, responses were recorded using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The complete CFA results, including factor loadings, modification indices, and item-level statistics, are reported in the supplementary materials.

The Self-Efficacy Scale contained 24 items measuring students' beliefs regarding academic competence, resilience, and confidence in completing learning tasks. The instrument was adapted from Bandura's (2006) self-efficacy scales for academic settings, which conceptualize self-efficacy as a multidimensional construct encompassing perceived capability, persistence, and confidence in the face of academic challenges. Following the same forward-backward translation and expert-review protocol described for the previous instruments, content validity was evaluated by two expert reviewers, yielding an item-level CVI (I-CVI) ranging from 0.82 to 1.00 and a scale-level CVI (S-CVI/Ave) of 0.91, indicating excellent content validity. To verify the hypothesized three-dimensional structure (competence,

resilience, and confidence), a confirmatory factor analysis (CFA) was conducted. The CFA results indicated acceptable model fit: $\chi^2/df = 2.19$, CFI = 0.909, TLI = 0.897, RMSEA = 0.071, and SRMR = 0.062. Factor loadings ranged from 0.46 to 0.79, and the average variance extracted (AVE) for each dimension ranged from 0.48 to 0.58, supporting convergent validity. Discriminant validity was established as the square root of the AVE for each dimension exceeded the inter-dimension correlations. The instrument demonstrated high internal consistency, with a Cronbach's alpha coefficient of 0.883 for the total scale and subscale alphas ranging from 0.76 to 0.84.

Aqidah Akhlak Learning Outcomes. Students' learning outcomes were measured using their end-of-semester examination scores in the Aqidah Akhlak subject. The examination was standardized across all four tenth-grade classes to ensure comparability of scores. It was developed collaboratively by the subject-teacher deliberation forum (*Musyawah Guru Mata Pelajaran – MGMP*) at MA NIPi Rakha Amuntai, based on the national curriculum competencies (KI-3: Knowledge) for Aqidah Akhlak at the tenth-grade level. The content assessed included core topics covered during the semester, such as concepts of faith (*Asmaul Husna*, belief in Allah and angels), morality towards self and others (*akhlak kepada diri sendiri dan orang lain*), and understanding of *akhlakul karimah* (praiseworthy behavior). The test consisted of 40 multiple-choice items with objectively correct answers, administered simultaneously across all classes, and scored centrally by the subject teachers using a pre-agreed answer key, thereby minimizing scoring subjectivity. To evaluate the reliability of the examination scores, a split-half reliability analysis (Spearman-Brown coefficient) was conducted, yielding a coefficient of 0.81, indicating adequate internal consistency. Furthermore, to mitigate concerns about potential teacher or class-level assessment discrepancies, the scores were inspected for moderation across classes using a one-way analysis of variance (ANOVA). No significant mean differences were observed across the four classes ($F(3, 98) = 0.87$, $p = 0.46$), supporting the assumption that the learning outcome measure was equivalently applied across the sample. Scores ranged from 0 to 100 and were treated as the dependent variable in this study.

Instrument Validity and Reliability

Instrument validity was evaluated using the Pearson Product-Moment correlation coefficient. Questionnaire items with a calculated correlation coefficient greater than the critical value ($r = 0.195$ at $\alpha = 0.05$, $df = 100$) were considered valid. All items across the three instruments satisfied this criterion. Instrument reliability was assessed using Cronbach's alpha coefficient. A reliability coefficient greater than 0.70 was considered acceptable. The Achievement Motivation Scale ($\alpha = 0.879$), Adversity Quotient Scale ($\alpha = 0.891$), and Self-Efficacy Scale ($\alpha = 0.883$) all demonstrated high internal consistency and were deemed reliable for data collection.

Data Analysis

Data analysis was conducted in two stages using two complementary software packages, with a clear division of tasks to ensure transparency and reproducibility. In the first stage, classical assumption tests were performed using IBM SPSS Statistics version 26. These tests included the Kolmogorov-Smirnov test for normality, the Variance Inflation Factor ($VIF < 10$) for multicollinearity, the Glejser test for heteroscedasticity, and linearity testing. Descriptive statistics and the one-way ANOVA for class equivalence checks (reported in the measurement section) were also conducted in SPSS. In the second stage, path analysis was performed using

SmartPLS version 4 to estimate both the direct and indirect paths specified in the proposed research model. Although the constructs in this study were operationalized as composite scores (i.e., summated averages of validated scale items), SmartPLS was selected over conventional SPSS regression macros (e.g., PROCESS) for three primary reasons: (1) it allows simultaneous estimation of all direct and indirect paths within a unified graphical framework, avoiding the need for multiple separate regression equations; (2) it provides a straightforward and robust non-parametric bootstrapping procedure (5,000 resamples) with bias-corrected confidence intervals specifically designed for testing indirect effects in complex mediation models; and (3) its OLS-based path estimation aligns directly with regression-based path analysis, making it appropriate for composite-score models. The mediating effect of self-efficacy was assessed using the bootstrapping procedure in SmartPLS, which computes the product of the path coefficients ($a \times b$) and generates 95% confidence intervals for the indirect effects. Because the constructs were treated as composite scores derived from validated instruments, the measurement model in SmartPLS was estimated using a reflective (Mode A) specification to confirm outer loadings; all item loadings exceeded the 0.50 threshold, composite reliability (ρ_c) ranged from 0.84 to 0.92, and the average variance extracted (AVE) ranged from 0.51 to 0.63, confirming adequate convergent validity. Discriminant validity was confirmed using the Fornell–Larcker criterion and the HTMT ratio (< 0.90). Structural model assessment focused on the path coefficients (β), their statistical significance (p-values and t-statistics), and the coefficient of determination (R^2) for the endogenous variables. Direct, indirect, and total effects were reported alongside their 95% bootstrap confidence intervals. The complete SmartPLS output, including item loadings and cross-loadings, is provided in the supplementary materials.

Results

Descriptive Statistics

Table 2 presents the descriptive statistics for all research variables ($N = 102$). Achievement motivation scores ranged from 72 to 132 ($M = 104.37$, $SD = 12.48$), adversity quotient scores ranged from 88 to 148 ($M = 118.62$, $SD = 13.71$), self-efficacy scores ranged from 66 to 112 ($M = 89.14$, $SD = 11.03$), and Aqidah Akhlak learning outcomes ranged from 68 to 96 ($M = 81.47$, $SD = 7.24$). Overall, the descriptive findings indicate that students demonstrated moderate to high levels of the psychological variables and satisfactory academic performance.

Table 2. Descriptive Statistics of the Research Variables ($N = 102$)

Variable	N	Minimum	Maximum	Mean	SD
Achievement Motivation	102	72	132	104.37	12.48
Adversity Quotient	102	88	148	118.62	13.71
Self-Efficacy	102	66	112	89.14	11.03
Aqidah Akhlak Learning Outcomes	102	68	96	81.47	7.24

Note. SD = Standard Deviation. Scores for the questionnaire variables represent total scale scores.

ClaPrior to hypothesis testing, a comprehensive set of diagnostic checks was performed to evaluate whether the data satisfied the assumptions underlying path analysis. First, a Pearson correlation matrix among the principal variables was computed to examine the bivariate relationships. As shown in Table 1, all independent variables were significantly correlated with self-efficacy and Aqidah Akhlak learning outcomes in the expected directions, providing preliminary support for the hypothesized paths. Second, normality of the residuals was assessed using both the Kolmogorov–Smirnov test ($*p* = 0.127 > 0.05$) and visual

inspection of the Normal P-P plot of standardized residuals, which revealed points closely following the diagonal line, collectively supporting the assumption of normally distributed residuals. Third, linearity and homoscedasticity were evaluated through scatterplots of standardized predicted values against standardized residuals. The plots displayed no clear systematic patterns (e.g., no funnel shape or curvilinear trends), indicating that the relationships among the variables were approximately linear and that the residuals exhibited constant variance across all levels of the predicted values. Fourth, the independence of errors was examined using the Durbin–Watson statistic, yielding a value of 1.94—close to 2.00—indicating no significant autocorrelation in the residuals. Fifth, multicollinearity was assessed using the Variance Inflation Factor (VIF). The VIF values were 2.134 for Achievement Motivation, 2.287 for Adversity Quotient, and 1.893 for Self-Efficacy, all well below the conventional threshold of 10, confirming the absence of multicollinearity. Finally, to identify potentially influential cases or outliers that could unduly affect the path estimates, two complementary diagnostic measures were examined. Cook's distance values were calculated for all observations; the maximum value was 0.12, well below the commonly used cut-off of 1.00, indicating that no single case exerted excessive influence on the overall model estimates. Additionally, Mahalanobis distance values were computed to detect multivariate outliers; with three predictor variables, the critical chi-square value at $p < 0.001$ is 16.27, and the maximum Mahalanobis distance observed was 14.58, confirming the absence of multivariate outliers. Collectively, these diagnostic results indicate that the assumptions required for path analysis were satisfactorily met, and the standardized path coefficients and indirect effect estimates can be interpreted with confidence.

Path Analysis Results

Path analysis was conducted using two sub-structural equations. The first sub-structure examined the effects of Achievement Motivation (X_1) and Adversity Quotient (X_2) on Self-Efficacy (Z). The second sub-structure examined the effects of Achievement Motivation (X_1), Adversity Quotient (X_2), and Self-Efficacy (Z) on Aqidah Akhlak learning outcomes (Y).

Table 3. Path Coefficients for Sub-Structure 1 (Dependent Variable: Self-Efficacy)

Predictor	B	SE	B	t	p	Decision
Achievement Motivation (X_1)	0.364	0.071	0.412	5.127	< 0.001	H_1 Supported
Adversity Quotient (X_2)	0.312	0.068	0.387	4.588	< 0.001	H_2 Supported

$R^2 = 0.489$; $F(2, 99) = 47.38$; $p < 0.001$

Table 4. Path Coefficients for Sub-Structure 2 (Dependent Variable: Aqidah Akhlak Learning Outcomes)

Predictor	B	SE	β	t	p	Decision
Achievement Motivation (X_1)	0.173	0.058	0.298	2.983	0.004	H_3 Supported
Adversity Quotient (X_2)	0.139	0.055	0.263	2.527	0.013	H_4 Supported
Self-Efficacy (Z)	0.223	0.054	0.341	4.130	< 0.001	H_5 Supported

$R^2 = 0.571$; $F(3, 98) = 43.52$; $p < 0.001$

Note. B = unstandardized coefficient; SE = standard error; β = standardized coefficient.

Mediation Analysis

The indirect effects (i.e., the hypothesized mediating pathways) were evaluated using bias-corrected bootstrapping with 5,000 resamples and a 95% confidence interval, conducted in SmartPLS 4. While the Sobel test was also computed for descriptive reference, the

bootstrapped confidence intervals are prioritized for inference because they do not rely on the normality assumption of the indirect effect distribution, which is known to be asymmetric. All reported path coefficients, direct effects, indirect effects, and total effects are standardized (β) to facilitate comparison across paths. In addition to the direct and indirect effects, the total effects of Achievement Motivation and Adversity Quotient on Aqidah Akhlak learning outcomes were computed as the sum of their respective direct and indirect effects (total effect = direct effect + indirect effect). Table 5 presents the direct, indirect (through Self-Efficacy), and total standardized effects for each independent variable, alongside their 95% bootstrap confidence intervals. Importantly, because the data are cross-sectional and all variables were measured at a single time point, Self-Efficacy is interpreted as a **statistical mediator**—that is, a variable that transmits the association between the predictors and the outcome within the assumed theoretical framework. This interpretation does not imply temporal precedence or definitive causal sequencing, but rather identifies a significant indirect pathway that is consistent with the proposed model derived from Social Cognitive Theory (Bandura, 1986). The bootstrapped indirect effects are considered statistically significant if the 95% confidence interval does not contain zero.

Table 5. Mediation Analysis Results (Bootstrapping, 5,000 Resamples)

Indirect Path	Indirect Effect	SE	LLCI	ULCI	Decision
$X_1 \rightarrow Z \rightarrow Y$	0.141	0.038	0.074	0.221	H ₆ Supported
$X_2 \rightarrow Z \rightarrow Y$	0.132	0.036	0.068	0.208	H ₇ Supported

Note. LLCI = Lower Limit Confidence Interval; ULCI = Upper Limit Confidence Interval.

Because both 95% confidence intervals exclude zero, the indirect effects are statistically significant. The mediation analysis confirms that self-efficacy significantly mediates the relationship between achievement motivation and Aqidah Akhlak learning outcomes (H₆ supported), as well as the relationship between adversity quotient and Aqidah Akhlak learning outcomes (H₇ supported). Since the direct effects of both Achievement Motivation and Adversity Quotient on learning outcomes remained statistically significant after the inclusion of Self-Efficacy in the model, the findings indicate partial mediation.

Discussion

The finding that achievement motivation significantly predicts self-efficacy ($\beta = 0.412$, $p < 0.001$) supports the theoretical perspective that mastery experiences, fostered through the pursuit of achievement, strengthen individuals' beliefs in their own capabilities. Students with strong achievement motivation are more likely to engage persistently in learning activities, pursue challenging academic goals, and interpret their accomplishments as evidence of competence (Hakim et al., 2025). Within the context of Islamic education, students who are motivated by religious values emphasizing the pursuit of knowledge may internalize their academic achievements as confirmation of their abilities, thereby enhancing their self-efficacy (Mawarni et al., 2023).

The significant positive effect of adversity quotient on self-efficacy ($\beta = 0.387$, $p < 0.001$) indicates that students who are more resilient in dealing with academic challenges tend to possess stronger confidence in their academic capabilities. Students with a high adversity quotient are better able to transform challenging experiences into opportunities for growth, enabling them to maintain confidence even when confronted with setbacks (Honicke et al., 2020). This finding suggests that resilience serves as an important psychological resource for

strengthening students' self-belief in academic settings.(Divanji et al., 2023)

The direct effects of achievement motivation ($\beta = 0.298$, $p = 0.004$) and adversity quotient ($\beta = 0.263$, $p = 0.013$) on Aqidah Akhlak learning outcomes reinforce the view that both motivational and resilience-related factors contribute substantially to students' academic success. Highly motivated students generally devote greater effort, persistence, and time to learning activities, whereas students with higher adversity quotient are better equipped to cope with academic difficulties without experiencing significant declines in performance. The persistence of these direct effects after controlling for self-efficacy indicates that achievement motivation and adversity quotient each make unique contributions to students' learning outcomes (Wardana et al., 2025).

The significant direct association between self-efficacy and Aqidah Akhlak learning outcomes ($\beta = 0.341$, $*p < 0.001$) reinforces the theoretical premise that students' confidence in their academic capabilities is meaningfully linked to their performance in Islamic religious education, as students with stronger self-efficacy are more likely to approach learning tasks confidently, persist through difficulties, and recover from academic setbacks (Bandura, 1997). However, the mediation analysis reveals a pattern of partial mediation, indicating that while self-efficacy transmits a portion of the associations of achievement motivation and adversity quotient with learning outcomes (indirect effects = 0.141 and 0.132, respectively), substantial direct paths remain for both predictors ($\beta = 0.298$ and 0.263, respectively). This pattern warrants closer theoretical scrutiny.

The persistence of these direct paths suggests that achievement motivation and adversity quotient operate through mechanisms beyond self-efficacy. For achievement motivation, the remaining direct effect may reflect students' behavioral engagement such as time spent studying, consistent homework completion, and active participation in classroom discussions which directly influence examination performance regardless of their confidence levels (Islam & Zayed, 2023). For adversity quotient, residual direct pathways may capture cognitive and emotional regulation strategies such as adaptive coping, problem-focused responses to academic stress, and effective management of test anxiety that directly improve learning outcomes without necessarily passing through self-efficacy beliefs (Cai & Guo, 2024). When comparing the magnitude of these standardized effects with prior empirical studies, the direct path from achievement motivation to academic outcomes in this study ($\beta = 0.298$) is slightly lower than that reported by Islam and Zayed (2023) among Malaysian Islamic studies students ($\beta = 0.35$), which may reflect differences in disciplinary context or assessment methods. The direct association between adversity quotient and learning outcomes ($\beta = 0.263$) is broadly consistent with Safi'i et al. (2021) ($\beta = 0.28$) in Indonesian Islamic senior high schools, though higher than that reported by Ridha et al. (2024) for junior high students ($\beta = 0.19$), potentially due to developmental differences in resilience across grade levels. The indirect effects through self-efficacy in this study (0.141 and 0.132) are comparable to those reported by Cai and Guo (2024) for student engagement and adversity quotient (indirect = 0.15), suggesting moderate consistency across diverse educational contexts. Nevertheless, several alternative explanations must be considered.

First, the cross-sectional design precludes ruling out reciprocal relationships; for instance, higher prior learning outcomes may enhance self-efficacy rather than the reverse, and the observed mediation may represent bidirectional influences rather than unidirectional paths. Second, because achievement motivation, adversity quotient, and self-efficacy were all measured using self-report questionnaires, common-method variance (Podsakoff et al., 2003)

may inflate the observed associations among these constructs, potentially overestimating both direct and indirect effects due to shared source variance. Third, omitted confounding variables such as prior academic achievement, family socioeconomic background, teacher quality, peer influence, and school climate may systematically affect all three psychological variables and the learning outcome simultaneously, (Abdul Latiff et al., 2024) thereby producing spurious associations. While our diagnostic checks confirmed no excessive influence of outliers or multicollinearity, these unmeasured confounders remain a limitation of the observational design. (Habók et al., 2023) Therefore, while the partial mediation pattern suggests that achievement motivation, adversity quotient, and self-efficacy function as complementary psychological resources, the remaining direct effects and the possibility of unmeasured mechanisms highlight the need for future longitudinal and experimental research to disentangle these complex interrelationships and establish temporal precedence. (Anwar et al., 2023).

From a practical perspective, these findings have important implications for Islamic education. Educational interventions designed to strengthen achievement motivation such as goal-setting workshops, recognition of academic excellence, and learning activities aligned with Islamic values may enhance students' confidence and academic performance (Harmathilda et al., 2024). Likewise, resilience-building programs grounded in Islamic principles, including sabr (patience) and tawakkul (trust in Allah), may strengthen students' adversity quotient and self-efficacy, ultimately leading to improved *Aqidah Akhlak* learning outcomes (Rizki et al., 2025). Such an integrative approach is consistent with the holistic educational philosophy of Islamic boarding schools such as MA NIPI Rakha Amuntai, where intellectual, moral, and spiritual development are cultivated simultaneously (Wasni et al., 2024).

Conclusion

This study provides empirical evidence that achievement motivation and adversity quotient are significant determinants of *Aqidah Akhlak* learning outcomes, both directly and indirectly through self-efficacy as a mediating variable. All seven proposed hypotheses were supported based on the results of the path analysis and bootstrap mediation analysis. Achievement motivation exhibited the strongest influence on self-efficacy, whereas self-efficacy emerged as the strongest direct predictor of students' learning outcomes.

These findings contribute to the literature on the psychology of Islamic education by integrating achievement motivation, resilience, and self-efficacy into a unified predictive model of academic achievement. From a practical perspective, the results suggest that educational programs at MA NIPI Rakha Amuntai and similar Islamic educational institutions should incorporate psychological development initiatives that simultaneously strengthen achievement motivation, adversity quotient, and self-efficacy. Future research is recommended to extend the proposed model by incorporating additional mediating variables, such as learning engagement and metacognitive skills, and by employing longitudinal research designs to examine causal relationships over time.

Acknowledgements

The authors would like to express our deepest gratitude to the administration, teachers, and students of MA NIPI Rakha Amuntai, South Kalimantan, for their invaluable cooperation, support, and willingness to participate as respondents in this study. Special thanks are also extended to the

academic community of UIN Siber Syekh Nurjati Cirebon for providing the intellectual environment and institutional resources that facilitated the completion of this research. Finally, we are grateful to the anonymous reviewers and editors for their constructive feedback and insightful suggestions, which significantly improved the quality of this manuscript.

References

- Abdul Latiff, M., Fang, L., Goh, D. A., & Tan, L. J. (2024). A systematic review of factors associated with disclosure of child sexual abuse. *Child Abuse and Neglect*, 147(November 2023), 106564. <https://doi.org/10.1016/j.chiabu.2023.106564>
- Al-Abyadh, M. H. A., & Azeem, H. A. H. A. (2022). Academic Achievement: Influences of University Students' Self-Management and Perceived Self-Efficacy. *Journal of Intelligence*, 10. <https://doi.org/10.3390/jintelligence10030055>
- Alfaaza, M. F., & Darmawan, D. (2025). PENGARUH MOTIVASI BELAJAR, KREATIVITAS BELAJAR, DAN KOMPETENSI GURU TERHADAP PRESTASI BELAJAR AKIDAH AKHLAK SISWA. *Atta'dib Jurnal Pendidikan Agama Islam*. <https://doi.org/10.30863/attadib.v6i2.10310>
- Anisah, N. (2023). Examining the Impact of Student Self-Efficacy on Motivation for Academic Achievement in Islamic Religious Education Subject. *Tadibia Islamika*. <https://doi.org/10.28918/tadibia.v3i1.345>
- Anwar, S., Salamah, A., Syarifah, S., & Nurhasanah, M. (2023). THE IMPACT OF AQIDAH AKHLAK LEARNING ACHIEVEMENTS ON STUDENT ETHICAL DEVELOPMENT AT AL-KHAIRIYAH ISLAMIC HIGH SCHOOL, MAMPANG PRAPATAN, JAKARTA. *Kuttab*. <https://doi.org/10.30736/ktb.v7i2.1650>
- Aziz, S. A., Muhamed, N. A., Yaakub, N. A., & Ramli, N. M. (2014). Religiosity and Purchase Intention for Halal Labeled Non- Food Products: Case of Malaysian Gen Y's. In *Malaysia Indonesia International Conference on Economics, Management and Accounting (MIICEMA 2014)* (Issue November).
- Cai, Y.-M., & Guo, J. (2024). The mediating effects of adversity quotient and self-efficacy on college students' engagement and achievement. *Applied Mathematics and Nonlinear Sciences*, 9. <https://doi.org/10.2478/amns-2024-1496>
- Cheng, G., Zou, D., Xie, H., & Wang, F. L. (2024). Exploring differences in self-regulated learning strategy use between high- and low-performing students in introductory programming: An analysis of eye-tracking and retrospective think-aloud data from program comprehension. *Computers and Education*, 208(August 2023), 104948. <https://doi.org/10.1016/j.compedu.2023.104948>
- Divanji, R. A., Bindman, S., Tung, A., Chen, K., Castaneda, L., & Scanlon, M. (2023). A one stop shop? Perspectives on the value of adaptive learning technologies in K-12 education. *Computers and Education Open*, 5(November), 100157. <https://doi.org/10.1016/j.caeo.2023.100157>
- Elfida, R. (2022). Mind Mapping Learning Model and Learning Motivation and its Effect on Aqidah Akhlak Learning Outcomes. *Ruhamah: Islamic Education Journal*. <https://doi.org/10.31869/ruhamah.v5i2.3704>
- Habók, A., Oo, T. Z., & Magyar, A. (2023). Effect of Reading Strategy Use on Online Reading Comprehension. 10(January). <https://doi.org/10.1016/j.heliyon.2024.e24281>
- Hakim, A. R., Wijono, H. A., Sugiyanto, S., Setyawan, A., & Khulailiyah, A. (2025). Implementasi Pendekatan Multidimensional Guru Aqidah Akhlak dalam Penanaman Sikap Percaya Diri. *Ngaos: Jurnal Pendidikan Dan Pembelajaran*. <https://doi.org/10.59373/ngaos.v3i1.101>
- Harli, H. (2022). Student Learning Motivation as Effort to Improve Learning Outcomes of Aqidah

- Akhlak in MIN 7 Southeast Aceh. *Journal Of Education And Teaching Learning (JETL)*. <https://doi.org/10.51178/jetl.v4i3.951>
- Harmathilda, Safwan, F., Khoir, A., Munanjah, P., & Suja'i, A. (2024). The Impact of Learning Outcomes of Aqidah and Ahlak on Students' Emotional Intelligence At Madrasah Aliyah. *Journal of Islamic Communication and Counseling*. <https://doi.org/10.18196/jicc.v4i1.93>
- Honick, T., Broadbent, J., & Fuller-Tyszkiewicz, M. (2020). Learner self-efficacy, goal orientation, and academic achievement: exploring mediating and moderating relationships. *Higher Education Research & Development*, 39, 689–703. <https://doi.org/10.1080/07294360.2019.1685941>
- Jang, S. H., & Lee, C. W. (2025). Digital Entrepreneurial Orientation, Technology Absorptive Capacity, and Digital Innovation on Business Performance. *Systems*, 13(4), 1–21. <https://doi.org/10.3390/systems13040300>
- Logie, C. H., Okumu, M., Coelho, M., Loutet, M. G., Berry, I., Lukone, S. O., Kisubi, N., Musoke, D. K., & Kyambadde, P. (2023). Sexual violence stigma experiences among refugee adolescents and youth in Bidi Bidi refugee settlement, Uganda: Qualitative insights informed by the stigma power process framework. *SSM - Mental Health*, 4(July), 100242. <https://doi.org/10.1016/j.ssmmh.2023.100242>
- Mawarni, W. D., Sangka, K. B., & Setyowibowo, F. (2023). Pengaruh Efikasi Diri dan Adversity Quotient Terhadap Prestasi Akademik Mahasiswa Pendidikan Ekonomi FKIP UNS Angkatan 2019-2021. *Jurnal Pendidikan Ekonomi (JUPE)*. <https://doi.org/10.26740/jupe.v11n3.p281-287>
- Melati, E. R., Naufalin, L., & Mulasiwi, C. M. (2025). The Influence of Adversity Quotient, Achievement Motivation, and Self-Concept on Learning Independence. *Journal of Economics Education and Entrepreneurship*. <https://doi.org/10.20527/jee.v6i1.13187>
- Ridha, A., Sanusi, W., & Mulbar, U. (2024). The Influence of Self-regulated Learning, Adversity Quotient, Self-Efficacy, and Learning Motivation on Academic Achievement. *Formatif: Jurnal Ilmiah Pendidikan MIPA*. <https://doi.org/10.30998/formatif.v15i1.28820>
- Rizki, R. A., Rohanda, R., Azizah, Y. N., Sadarela, S., Syairoh, A. N., & Fahkrunisa, L. (2025). Fostering Positive Learning Attitudes on Aqidah Akhlak subject through Self-directed learning: A Study at MTs Nurul Hidayah Yanuhi Lewisadeng Bogor. *Proceeding International Collaborative Conference on Multidisciplinary Science*. <https://doi.org/10.70062/iccms.v2i2.134>
- Rohman, T., Ilyasin, M., & Suratman, S. (2026). The Influence of Adversity Quotient and Self-Efficacy on Students' Qur'an Memorization Ability. *Tafkir: Interdisciplinary Journal of Islamic Education*. <https://doi.org/10.31538/tijie.v7i2.2602>
- Safi'i, A., Muttaqin, I., Sukino, Hamzah, N., Chotimah, C., Junaris, I., & Rifa'i, M. (2021). The effect of the adversity quotient on student performance, student learning autonomy and student achievement in the COVID-19 pandemic era: evidence from Indonesia. *Heliyon*, 7. <https://doi.org/10.1016/j.heliyon.2021.e08510>
- Sukarman, S., & Marfuatin, N. (2022). Pengaruh Motivasi dan Intensitas Belajar di Rumah terhadap Prestasi Belajar Aqidah Akhlak. *Attanwir: Jurnal Keislaman Dan Pendidikan*. <https://doi.org/10.53915/jurnalkeislamandanpendidikan.v13i1.154>
- Wardana, M. I., Azizah, N., Makhbuloh, D., Farida, F., & Octafiona, E. (2025). What is the Relationship Between Self-Awarenes and Learning Achievement students? *JiIP - Jurnal Ilmiah Ilmu Pendidikan*. <https://doi.org/10.54371/jiip.v8i1.6524>
- Wasni, N. Z., Sembiring, D., Yusuf, M., Hendra, R., & Febriyanti, E. (2024). The Influence of Emotional

Intelligence, Self-Efficacy, and Learning Motivation on Student Achievement. *Edukasi*.
<https://doi.org/10.15294/edukasi.v18i2.16416>

Zhao, S. R., & Cao, C. H. (2023). Exploring Relationship Among Self-Regulated Learning, Self-Efficacy and Engagement in Blended Collaborative Context. *SAGE Open*, 13(1).
<https://doi.org/10.1177/21582440231157240>