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Article

Spiritual intelligence, piety self-regulation, and parental attitudes as predictors of achievement motivation among Indonesian university students

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ABSTRACT

Achievement motivation is an important psychological factor underlying students' academic engagement and success. This study examined whether spiritual intelligence, self-regulation in piety, and parental attitudes toward children significantly predict achievement motivation among Indonesian university students. A quantitative cross-sectional design was employed with 280 undergraduate students from West Sumatra, DKI Jakarta, and the Special Region of Yogyakarta, selected through proportional stratified sampling. Data were collected using Likert-type instruments with good internal consistency (Cronbach's α = .799–.893) and analyzed using multiple linear regression. The results indicated that the three predictors jointly explained 92.2% of the variance in achievement motivation ($F(3, 276) = 686.279$, $p < .001$). Spiritual intelligence ($\beta = .203$), self-regulation in piety ($\beta = .663$), and parental attitudes toward children ($\beta = .143$) were positive and significant predictors ($p < .001$). Self-regulation in piety demonstrated the strongest predictive association. These findings suggest that achievement motivation is associated with the interplay of spiritual intelligence, value-based self-regulation, and supportive parental attitudes within the Indonesian cultural context. The findings extend achievement motivation perspectives by highlighting culturally situated internal and social-contextual resources. However, the cross-sectional self-report design limits causal interpretation, and the high explained variance should be interpreted cautiously due to potential shared variance and common-method bias.

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Introduction

Understanding achievement motivation remains a central concern in educational psychology because it helps explain why students initiate, sustain, and regulate effort toward standards of academic

excellence. Although contemporary motivation research has increasingly emphasized expectancy, task value, self-determination, self-regulation, and social-contextual processes, achievement motivation remains a theoretically important construct for understanding students' orientation toward challenging goals, persistence, and accomplishment (McClelland, 1961; Eccles & Wigfield, 2002; Ryan & Deci, 2000; Pintrich, 2004; Wigfield et al., 2021). Recent empirical studies further demonstrate that students' motivation and achievement are associated with self-regulation, motivational beliefs, learning environments, and social influences (Pestana et al., 2021; Vasalampi et al., 2023; Chen et al., 2026; Zhang & Ma, 2026). Thus, achievement motivation should be understood not as an isolated individual characteristic but as a psychological process embedded in interacting personal, value-based, and social-contextual influences.

McClelland's need for achievement theory provides an appropriate foundational lens for the present study because it conceptualizes achievement motivation in terms of an individual's tendency to pursue standards of excellence, assume responsibility for outcomes, seek challenging but attainable goals, and persist in activities through which competence can be demonstrated (McClelland, 1961). These characteristics remain relevant to contemporary educational research because university students are required to regulate effort, evaluate performance, and sustain goal-directed behavior in relatively autonomous learning environments. At the same time, McClelland's framework does not fully specify how achievement-oriented behavior is shaped by contemporary psychological mechanisms such as expectancy and task value (Eccles & Wigfield, 2002), intrinsic and autonomous motivation (Ryan & Deci, 2000), or self-regulated learning (Zimmerman, 2000; Pintrich, 2004). Rather than treating these theoretical perspectives as competing explanations, the present study uses McClelland's framework as the primary outcome-oriented lens and extends it by examining spiritual and family-related predictors that have received comparatively less attention in an integrated model.

This theoretical positioning is important because contemporary achievement-motivation research has developed beyond a single-theory explanation. Expectancy-value approaches emphasize students' expectations of success and the value they attach to academic activities, whereas self-determination theory highlights autonomy, competence, relatedness, and the internalization of motivation (Eccles & Wigfield, 2002; Ryan & Deci, 2000). Social-cognitive models further emphasize reciprocal interactions between self-regulatory processes, beliefs, behavior, and environmental influences (Zimmerman, 2000; Pintrich, 2004). These developments suggest that achievement motivation may be influenced simultaneously by internal regulatory resources and by the social contexts in which values and motivational orientations are developed. However, the existing literature has not sufficiently examined how spiritual intelligence, religiously grounded self-regulation, and parental attitudes operate together in predicting achievement motivation among university students.

One potentially important internal resource is spiritual intelligence. Spiritual intelligence has been conceptualized as the capacity to construct meaning, integrate values, and use deeper existential understanding to guide thought and behavior (Zohar & Marshall, 2001; King & DeCicco, 2009). In educational contexts, this capacity may provide students with a broader sense of purpose and meaning that supports persistence when academic demands become difficult. Empirical studies have associated spiritual intelligence and related spiritual constructs with academic achievement, self-regulated learning, resilience, and psychological well-being (Yuzarion et al., 2024; Indrayani et al., 2021; Imron et al., 2023; Ozdemir Koyu et al., 2024). These findings suggest that spiritual intelligence may function as a meaning-oriented psychological resource that complements conventional cognitive and motivational explanations of academic behavior.

A second internal factor is self-regulation in piety, which is particularly relevant in the Indonesian religious-cultural context. In the present study, self-regulation in piety refers to the capacity to regulate cognition, emotion, and behavior in accordance with internalized religious values (Yuzarion, 2025; Yuzarion et al., 2025). This construct extends conventional self-regulation perspectives by emphasizing the role of religious values as standards for regulating personal conduct and goal-

directed behavior. Consistent with social-cognitive perspectives on self-regulation, effective regulation involves processes of forethought, performance or volitional control, and self-reflection that enable individuals to maintain goal-directed behavior (Zimmerman, 2000). Research on college students similarly indicates that self-regulatory processes are closely related to motivation, learning strategies, persistence, and academic achievement (Pintrich, 2004; Chan, 2024; Lourenço et al., 2025). The distinctive contribution of the present study is therefore to examine whether self-regulation grounded specifically in piety provides additional explanatory relevance for achievement motivation beyond general self-regulatory processes.

The social environment constitutes a complementary source of motivational influence. Parental attitudes toward children may shape students' perceptions of competence, responsibility, autonomy, and the value of achievement through emotional support, expectations, communication, and patterns of reinforcement (Grolnick & Ryan, 1989; Steinberg, 2001; Grolnick & Pomerantz, 2021). Supportive parental environments have been associated with academic motivation and achievement-related outcomes, whereas controlling or authoritarian parenting may undermine adaptive motivational processes and psychological well-being (Ouyang & Chan, 2025; Liou et al., 2026; Bai et al., 2026; Paige et al., 2025). Although university students are increasingly autonomous from their parents, parental attitudes may continue to influence internalized values and motivational orientations developed across earlier developmental periods. Accordingly, parental attitudes represent an important social-contextual predictor that complements the internal factors of spiritual intelligence and self-regulation in piety.

Taken together, the literature suggests three potentially complementary pathways to achievement motivation. Spiritual intelligence may provide meaning and value orientation; self-regulation in piety may translate internalized values into disciplined, goal-directed behavior; and parental attitudes may provide the interpersonal context through which achievement-related values, competence beliefs, and motivational orientations are supported or constrained. Previous research has provided evidence for these relationships separately, but the findings have largely been dispersed across different theoretical traditions and populations (Yuzarion et al., 2024; Imron et al., 2023; Liou et al., 2026; Vasalampi et al., 2023). Consequently, it remains unclear whether these three domains make distinct and simultaneous contributions to achievement motivation when examined within a single predictive model.

This unresolved issue represents both a theoretical and empirical gap. First, existing achievement-motivation research has extensively examined cognitive, motivational, and self-regulatory mechanisms, but comparatively less attention has been given to the integration of spiritual and religious-value-based regulation into these models. Second, studies of spiritual intelligence and self-regulation have often examined academic achievement, engagement, or well-being rather than achievement motivation as the primary outcome. Third, parental influences are frequently examined independently from spiritual and religious processes, leaving insufficient evidence regarding whether internal spiritual-regulatory resources and family socialization jointly explain individual differences in students' achievement motivation. Fourth, evidence from Indonesia remains comparatively limited despite the relevance of religious and family values to students' social and psychological development. These gaps indicate the need for an integrative predictive model rather than another isolated examination of individual correlates.

The Indonesian context is particularly relevant to this question because students' academic motivation develops within social and cultural environments in which family relationships, religious values, and educational aspirations may coexist as important sources of meaning and behavioral regulation. Previous Indonesian studies have reported relationships among spiritual intelligence, self-regulated learning, and academic achievement (Indrayani et al., 2021; Yuzarion et al., 2024), while other research has examined spirituality and achievement motivation through resilience and academic engagement (Imron et al., 2023). However, these studies do not establish whether spiritual intelligence, self-regulation in piety, and parental attitudes toward children jointly predict achievement motivation among university students across multiple Indonesian regions.

Accordingly, the present study retains McClelland's achievement motivation framework as the primary theoretical lens because the central outcome concerns students' orientation toward achievement, standards of excellence, responsibility, and persistence. Contemporary expectancy-value and self-determination perspectives are used as complementary theoretical developments rather than replacements for McClelland's framework: expectancy-value theory helps explain the role of beliefs and values in motivational behavior, while self-determination theory clarifies how social-contextual conditions may support the internalization and autonomous regulation of motivation (Eccles & Wigfield, 2002; Ryan & Deci, 2000). The present framework therefore extends, rather than rejects, classical achievement motivation theory by testing whether spiritual meaning, religiously grounded self-regulation, and parental attitudes provide additional explanatory pathways to achievement motivation.

The unique contribution of this study is the development and empirical testing of an integrated predictive model in which spiritual intelligence, self-regulation in piety, and parental attitudes toward children are examined simultaneously as predictors of university students' achievement motivation within an Indonesian religious-cultural context.

Methodologically, this study employs a quantitative, cross-sectional correlational design. The study involved 280 undergraduate students from West Sumatra, DKI Jakarta, and the Special Region of Yogyakarta who were selected using proportional sampling. Achievement motivation was operationalized using a 36-item Likert-scale instrument based on McClelland's achievement motivation framework; spiritual intelligence was assessed using a 36-item adapted instrument based on the framework of Zohar and Marshall; self-regulation in piety was assessed using a 48-item Yuzarion scale; and parental attitudes toward children were measured using a 40-item Yuzarion scale. The relationships among the three predictor variables and achievement motivation were examined using multiple linear regression, allowing both their unique and simultaneous predictive contributions to be evaluated.

Based on this theoretical framework and empirical gap, the present study addresses the following research question: To what extent do spiritual intelligence, self-regulation in piety, and parental attitudes toward children individually and jointly predict achievement motivation among university students in Indonesia?

The Present Study and Hypotheses

The present study tests four directional hypotheses using measurable predictor and outcome variables: H1: Spiritual intelligence positively predicts achievement motivation among university students; H2: Self-regulation in piety positively predicts achievement motivation among university students; H3: Positive parental attitudes toward children positively predict achievement motivation among university students; and H4: Spiritual intelligence, self-regulation in piety, and parental attitudes toward children simultaneously and significantly predict achievement motivation among university students.

Conceptual Model

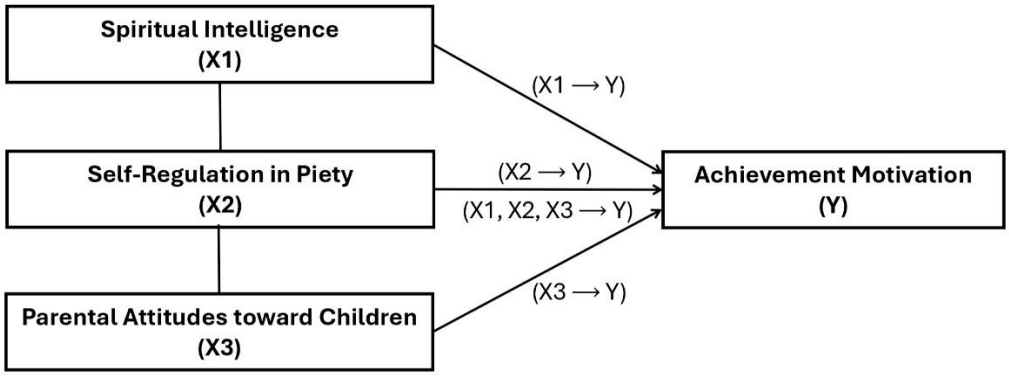

Figure 1. Conceptual Research Model

Figure 1 illustrates a simultaneous predictive framework in which Spiritual Intelligence (X1), Self-Regulation in Piety (X2), and Parental Attitudes toward Children (X3) are specified as predictor variables, while Achievement Motivation (Y) is the criterion variable. The model specifies three direct predictive paths (H1: X1 → Y; H2: X2 → Y; H3: X3 → Y) and one simultaneous prediction hypothesis (H4: X1, X2, X3 → Y). No mediating or moderating variables are included because the primary objective is to establish the unique and joint predictive contributions of the three theoretically distinct domains to achievement motivation.

Methods

Participants

A total of $N = 280$ undergraduate students participated in this study. The participants were recruited from three provinces in Indonesia: West Sumatra ($n = 98$), DKI Jakarta ($n = 94$), and the Special Region of Yogyakarta ($n = 88$). The target population consisted of 702 undergraduate students distributed across the three provinces. To ensure proportional representation of students from each geographical area, the sample size was allocated according to the proportion of the population in each province. Within each provincial stratum, participants were recruited according to the availability and accessibility of eligible students. Accordingly, the sampling procedure should be understood as proportional stratified recruitment rather than as simple random sampling, and the findings should therefore be generalized primarily to students with characteristics comparable to those represented in the sample.

This study employed a cross-sectional design, in which data were collected at a single point in time within the same academic period (Creswell & Creswell, 2018). All participants provided voluntary informed consent before completing the research instruments. Participation was voluntary, and participants were informed that they could withdraw from the study without penalty.

An a priori power analysis was conducted using G*Power. For a multiple linear regression model with three predictors, assuming a medium effect size ($f^2 = 0.15$), $\alpha = 0.05$, and statistical power of 0.80, the minimum required sample was approximately 77 participants. The value of $f^2 = 0.15$ was adopted as the conventional medium-effect benchmark for multiple regression rather than as an empirically established effect size specific to the present constructs (Cohen et al., 2018). Thus, the power analysis was used as a conservative statistical adequacy criterion, while the substantially larger final sample ($N = 280$) provided additional precision for estimating the regression relationships.

Research Design

This study adopted a quantitative, cross-sectional correlational design to examine whether spiritual intelligence, self-regulation in piety, and parental attitudes toward children statistically predicted achievement motivation among university students in Indonesia.

The study variables were classified into three predictor variables and one criterion variable. The predictor variables were spiritual intelligence (X1), self-regulation in piety (X2), and parental attitudes toward children (X3), whereas achievement motivation (Y) was specified as the criterion variable.

The design was correlational rather than experimental; therefore, the terms "predict" and "prediction" refer to statistical prediction within a multiple regression model and do not imply causal effects. Multiple linear regression was used to estimate the unique contribution of each predictor while simultaneously examining the combined contribution of the three predictors to achievement motivation (Field, 2018).

The operational distinction among the constructs was established at the conceptual level. Spiritual intelligence referred to the individual's capacity to derive meaning, maintain transcendental awareness, and use spiritual understanding in responding to life situations (Zohar & Marshall, 2001; King & DeCicco, 2009). Self-regulation in piety, in contrast, referred specifically to the individual's deliberate regulation of cognition, emotion, motivation, and behavior in accordance with Islamic

values and practices (Yuzarion, 2025). Thus, spiritual intelligence concerns the capacity to understand and orient oneself through spiritual meaning, whereas self-regulation in piety concerns the active regulation of one's thoughts, emotions, intentions, and behaviors to maintain conduct consistent with Islamic principles. Parental attitudes toward children represented the perceived patterns of parental support, expectations, control, warmth, communication, and educational involvement experienced by the student (Yuzarion, 2022). Achievement motivation represented the individual's tendency to pursue standards of excellence, assume responsibility for performance, respond constructively to feedback, and persist in challenging tasks, consistent with the achievement-motivation framework of McClelland (1961).

Measurement Instruments

All four constructs were assessed using Likert-type self-report instruments based on established theoretical frameworks and previously developed or adapted scales. The instruments were administered in Indonesian. The number of items, theoretical or instrument sources, response formats, and psychometric evidence obtained from the present sample are summarized in Table 1.

Table 1. Characteristics and Psychometric Properties of the Measurement Instruments

Variable	Theoretical/Instrument Source	Items	Response Format	Cronbach's α	Corrected Item–Total Correlation
Achievement Motivation	McClelland (1961)	36	1–5 Likert	**0.799**	**0.377–0.767**
Spiritual Intelligence	Zohar & Marshall (2001); King & DeCicco (2009)	36	1–4 Likert	**0.893**	**0.410–0.831**
Self-Regulation in Piety	Yuzarion (2025)	48	1–4 Likert	**0.840**	**0.350–0.801**
Parental Attitudes toward Children	Yuzarion (2022)	40	1–4 Likert	**0.829**	**0.422–0.797**

Note. Cronbach′ s alpha and corrected item–total correlations were calculated using the present study sample (N = 280). Higher scores indicate higher levels of the respective construct after appropriate reverse scoring of negatively worded items.

Achievement Motivation

Achievement motivation was measured using a 36-item scale based on McClelland's (1961) need-for-achievement framework. The scale assessed characteristics associated with achievement-oriented behavior, including responsibility for one's work, preference for challenging tasks, goal orientation, responsiveness to feedback, willingness to improve performance, and persistence in completing tasks.

Items were rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Positively and negatively worded items were included, with negatively worded items reverse-scored before computing the total score. A higher total score indicated a stronger achievement-motivation orientation.

An illustrative item was: "I am responsible for my work." Other items assessed behaviors such as completing tasks on time, responding to criticism by improving one's performance, and becoming more motivated when facing difficult tasks.

In the present sample, the scale demonstrated acceptable internal consistency (Cronbach's α = 0.799). Corrected item–total correlations ranged from 0.377 to 0.767, indicating that the items showed positive associations with the overall construct.

Spiritual Intelligence

Spiritual intelligence was assessed using a 36-item instrument informed by the conceptualization of spiritual intelligence proposed by Zohar and Marshall (2001) and the measurement framework developed by King and DeCicco (2009). The instrument assessed the capacity to derive meaning from

experiences, maintain a sense of purpose, reflect on life situations, and use spiritual understanding in responding to challenges.

Responses were recorded using a four-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). Negatively worded items were reverse-scored before calculating the total score. Higher scores represented higher levels of spiritual intelligence.

Illustrative items included: "I can learn from every situation," "I do not give up when I experience failure," and "I think carefully before making a decision." These items illustrate the reflective, meaning-oriented, and adaptive dimensions represented in the instrument.

For the present sample, Cronbach's alpha was 0.893, while corrected item–total correlations ranged from 0.410 to 0.831. These findings indicate good internal consistency of the instrument in the present sample.

Importantly, spiritual intelligence was not operationalized simply as religious practice or religious compliance. Its operationalization emphasized meaning-making, reflective awareness, transcendence, and the application of spiritual understanding to life experiences. This distinction was maintained to differentiate the construct from self-regulation in piety.

Self-Regulation in Piety

Self-regulation in piety was measured using the 48-item Yuzarion (2025) scale. The construct was operationalized as the deliberate regulation of cognition, emotion, motivation, and behavior in accordance with Islamic values and the individual's commitment to pious conduct.

The instrument included behavioral and self-regulatory indicators related to setting goals consistent with Islamic principles, planning religious activities, monitoring one's religious behavior, recognizing personal shortcomings, seeking guidance, maintaining intentions, controlling negative impulses, and sustaining efforts to improve one's religious conduct.

Items were rated on a four-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). Negatively worded items, where applicable, were reverse-scored before calculating the total score. Higher scores indicated stronger self-regulation in piety.

Illustrative items included: "Setting life goals that are consistent with Islamic principles," "Planning time for dhikr and regular worship," "Recognizing my shortcomings in practicing Islamic teachings," and "Controlling anger and negative desires that may undermine faith." In the present sample, the scale yielded a Cronbach's alpha of 0.840, with corrected item–total correlations ranging from 0.350 to 0.801. These results provide evidence of satisfactory internal consistency for the present sample.

Conceptually, this construct differs from spiritual intelligence because it focuses on self-regulatory processes directed toward Islamic piety. Whereas spiritual intelligence concerns the capacity to construct meaning and orient oneself through spiritual awareness, self-regulation in piety concerns the intentional monitoring and regulation of one's behavior, emotions, motivation, and actions to remain consistent with Islamic values (Yuzarion, 2025).

Parental Attitudes toward Children

Parental attitudes toward children were measured using the 40-item Yuzarion (2022) scale, which assesses students' perceptions of parental attitudes and educational practices. The instrument covers parental warmth and affection, support for learning, expectations, communication, autonomy support, educational involvement, rule setting, and controlling or unsupportive attitudes.

Items were rated on a four-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). Negatively worded items were reverse-scored before the computation of the overall score. Higher scores indicated more positive and supportive parental attitudes toward the child.

Illustrative items included: "My parents remind me to study diligently," "My parents give me freedom to study when completing school assignments," "My parents support my learning activities

fully," and "My parents make me comfortable when studying." Negative items addressed experiences such as excessive pressure, rigid rules, lack of appreciation, and insufficient parental support. In the present sample, Cronbach's alpha was 0.829, with corrected item–total correlations ranging from 0.422 to 0.797, indicating satisfactory internal consistency.

Psychometric Evaluation

In response to concerns regarding the psychometric documentation of the instruments, the present study explicitly distinguishes between psychometric evidence obtained in the current sample and evidence reported in previous validation studies. The present study evaluated internal consistency using Cronbach's alpha and examined corrected item–total correlations for all items in each of the four instruments. The results are reported in Table 1.

Cronbach's alpha coefficients ranged from 0.799 to 0.893 across the four instruments, while corrected item–total correlations ranged from 0.350 to 0.831. These results indicate acceptable-to-good internal consistency and positive item discrimination within the present sample.

The present study did not conduct exploratory factor analysis (EFA), confirmatory factor analysis (CFA), partial least squares structural equation modeling (PLS-SEM), or other latent-variable modeling. Consequently, factor loadings, average variance extracted (AVE), composite reliability, and heterotrait–monotrait ratios (HTMT) are not reported as findings of the present study. Where theoretical or structural validity was established in the original development or validation studies, those findings are treated as evidence from previous research rather than as psychometric evidence generated by the present sample.

The complete instruments were retained by the researchers and may be provided as supplementary material, subject to the applicable copyright and instrument-use conditions, to facilitate replication. The examples presented in this Methods section are illustrative items rather than complete reproductions of the instruments.

Procedure

Data collection was conducted from November 2025 to January 2026. The questionnaires were administered to eligible undergraduate students within university settings during the specified data-collection period. The average completion time was approximately 25–35 minutes.

Before completing the questionnaire, participants received an explanation of the study objectives, the voluntary nature of participation, data confidentiality, and their right to withdraw from the study at any time. Participants provided informed consent before responding to the instruments. All research procedures followed established ethical principles for research involving human participants (Sagitova et al., 2023).

The questionnaires were administered using the same measurement instructions and response formats across the participating locations. Completed responses were screened before statistical analysis, and item scoring was conducted according to the scoring procedures of each instrument, including reverse scoring for negatively worded items where applicable.

Data Analysis

Data were analyzed using IBM SPSS Statistics version 27.0. Descriptive statistics, including means and standard deviations, were calculated to summarize the distribution of the study variables. Before hypothesis testing, the assumptions relevant to multiple linear regression were examined, including normality of regression residuals, linearity, multicollinearity, and homoscedasticity. These diagnostic analyses were treated as prerequisite checks rather than as substantive hypothesis tests.

Normality of the regression residuals was assessed using the Kolmogorov–Smirnov test and inspection of the normal probability plot. The residuals yielded an Asymp. Sig. (2-tailed) value of 0.200, which was greater than 0.05, and the probability plot showed that the residual points were distributed approximately along the diagonal line.

Linearity was examined for each predictor–criterion relationship. The relationships between spiritual intelligence and achievement motivation, self-regulation in piety and achievement motivation, and parental attitudes toward children and achievement motivation showed significant linear components ($p < 0.05$), while the corresponding deviations from linearity were non-significant ($p > 0.05$). Specifically, the spiritual intelligence–achievement motivation relationship yielded an F-linearity value of 1038.959 ($p < 0.001$), the self-regulation in piety–achievement motivation relationship yielded F = 1870.310 ($p < 0.001$), and the parental attitudes toward children–achievement motivation relationship yielded F = 389.400 ($p < 0.001$). These results supported the assumption of linearity.

Multicollinearity was examined using tolerance and variance inflation factor (VIF) statistics. The tolerance values were 0.210 for spiritual intelligence, 0.183 for self-regulation in piety, and 0.433 for parental attitudes toward children, while the corresponding VIF values were 4.766, 5.468, and 2.312, respectively. All tolerance values exceeded 0.10 and all VIF values were below 10, indicating that severe multicollinearity was not detected.

Homoscedasticity was assessed using the Glejser test, in which the absolute residual values were regressed on the three predictor variables. The significance values were 0.078 for spiritual intelligence, 0.133 for self-regulation in piety, and 0.153 for parental attitudes toward children. Because all values exceeded 0.05, the model did not show evidence of heteroscedasticity, supporting the assumption of homoscedasticity.

Following the assumption checks, multiple linear regression was conducted to test the four prespecified hypotheses. The regression model estimated the unique association of spiritual intelligence (X1), self-regulation in piety (X2), and parental attitudes toward children (X3) with achievement motivation (Y). The partial contribution of each predictor was evaluated using the regression coefficient and *t*-test, whereas the overall predictive contribution of the three predictors was evaluated using the F-test and coefficient of determination (R^2). Statistical significance was evaluated at $\alpha = 0.05$. Because the study used a cross-sectional correlational design, statistically significant regression coefficients were interpreted as evidence of predictive associations rather than causal effects.

Descriptive Statistics

Descriptive statistics showed that the mean score for achievement motivation was 66.23 (SD = 4.37). The mean score for spiritual intelligence was 77.41 (SD = 4.12), while self-regulation in piety had a mean of 76.52 (SD = 4.40). The mean score for parental attitudes toward children was 76.74 (SD = 3.74).

Based on the categorization procedure used in the study, the majority of participants were classified in the high category: 96% for achievement motivation, 95% for spiritual intelligence, 94% for self-regulation in piety, and 94% for parental attitudes toward children. These descriptive classifications were used to characterize the sample and were not treated as evidence for the hypotheses.

Results and Discussion

Descriptive Statistics

Descriptive statistics indicated that the mean score for achievement motivation was 66.23 (SD = 4.37). Spiritual intelligence had a mean score of 77.41 (SD = 4.12), self-regulation in piety had a mean score of 76.52 (SD = 4.40), and parental attitudes toward children had a mean score of 76.74 (SD = 3.74). Based on the categorization procedure used in the study, the majority of participants were classified in the high category for all four constructs: 96% for achievement motivation, 95% for spiritual intelligence, 94% for self-regulation in piety, and 94% for parental attitudes toward children. These descriptive classifications were used to characterize the distribution of the study variables and were not treated as evidence for the study hypotheses.

Multiple Linear Regression

Multiple linear regression analysis was conducted to examine whether spiritual intelligence, self-regulation in piety, and parental attitudes toward children jointly and uniquely predicted achievement motivation among university students in Indonesia. The analysis tested the four prespecified hypotheses by evaluating the overall regression model and the independent contribution of each predictor.

Overall Regression Model

The combined predictors showed a very strong relationship with achievement motivation ($R = .960$). The regression model explained 92.2% of the variance in achievement motivation ($R^2 = .922$; adjusted $R^2 = .921$), with a standard error of the estimate of 1.227. The overall model was statistically significant, $F(3, 276) = 686.279$, $p < .001$, indicating that spiritual intelligence, self-regulation in piety, and parental attitudes toward children jointly predicted achievement motivation. The remaining 7.8% of the variance was attributable to factors not included in the present model. Thus, H4 was supported.

Table 2. Multiple Linear Regression Model Summary

Model	R	R^2	Adjusted R^2	SE of the Estimate	F	df1	df2	p
1	.960	.922	.921	1.227	686.279	3	276	< .001

Note. Predictors: spiritual intelligence, self-regulation in piety, and parental attitudes toward children. Dependent variable: achievement motivation. $N = 280$.

Unique Predictive Contributions

Spiritual intelligence was a significant positive predictor of achievement motivation, $B = 0.215$, $SE = 0.049$, $\beta = .203$, $t(276) = 4.388$, $p < .001$. The 95% confidence interval for the unstandardized coefficient was [0.119, 0.311], indicating that the positive association remained statistically different from zero. The corresponding partial effect size ($f^2 = 0.070$) indicated a small unique contribution after controlling for self-regulation in piety and parental attitudes toward children. Therefore, H1 was supported.

Self-regulation in piety was also a significant positive predictor of achievement motivation, $B = 0.659$, $SE = 0.049$, $\beta = .663$, $t(276) = 13.404$, $p < .001$. The 95% confidence interval for the unstandardized coefficient was [0.563, 0.755]. The corresponding partial effect size ($f^2 = 0.649$) indicated a large unique contribution to achievement motivation after controlling for the other predictors. Self-regulation in piety had the largest standardized coefficient among the three predictors and therefore emerged as the strongest predictor in the model. These findings supported H2.

Parental attitudes toward children were likewise a significant positive predictor of achievement motivation, $B = 0.167$, $SE = 0.038$, $\beta = .143$, $t(276) = 4.429$, $p < .001$. The 95% confidence interval for the unstandardized coefficient was [0.092, 0.242], and the corresponding partial effect size was $f^2 = 0.071$, indicating a small unique contribution after accounting for the other predictors. Thus, H3 was supported.

Table 3. Multiple Regression Coefficients for Achievement Motivation

Predictor	B	SE	β	t	p	95% CI for B	Partial f^2
Spiritual intelligence	0.215	0.049	.203	4.388	< .001	[0.119, 0.311]	0.070
Self-regulation in piety	0.659	0.049	.663	13.404	< .001	[0.563, 0.755]	0.649
Parental attitudes toward children	0.167	0.038	.143	4.429	< .001	[0.092, 0.242]	0.071

Note. B = unstandardized regression coefficient; SE = standard error; β = standardized regression coefficient; CI = confidence interval; $N = 280$.

Regression Equation

The estimated regression equation based on the unstandardized coefficients was:

Achievement Motivation = −13.619 + 0.215 (Spiritual Intelligence) + 0.659 (Self-Regulation in Piety) + 0.167 (Parental Attitudes Toward Children).

The positive regression coefficients indicate that higher scores on each predictor were associated with higher achievement motivation while the other predictors were statistically controlled. The standardized coefficients further indicated that self-regulation in piety had the strongest unique predictive association with achievement motivation (β = .663), followed by spiritual intelligence (β = .203) and parental attitudes toward children (β = .143).

Hypothesis Summary

All four prespecified hypotheses were supported. Spiritual intelligence positively predicted achievement motivation, supporting H1. Self-regulation in piety positively predicted achievement motivation and demonstrated the strongest unique predictive contribution, supporting H2. Positive parental attitudes toward children also positively predicted achievement motivation, supporting H3. Finally, the three predictors jointly accounted for a substantial proportion of variance in achievement motivation, with the overall regression model reaching statistical significance, supporting H4.

Taken together, these findings provide empirical support for the proposed integrative model. Achievement motivation among the university students in this sample was not explained solely by an individual motivational disposition but was associated with complementary internal and social-contextual resources. Spiritual intelligence represented a meaning-oriented resource, self-regulation in piety reflected the capacity to translate internalized religious values into regulated and goal-directed behavior, and parental attitudes represented a social context potentially contributing to the development and maintenance of achievement-oriented tendencies. The comparatively stronger contribution of self-regulation in piety suggests that the active regulation of cognition, emotion, motivation, and behavior in accordance with internalized Islamic values may be particularly relevant to students' achievement motivation. At the same time, the significant independent contributions of spiritual intelligence and parental attitudes indicate that achievement motivation may emerge through the interplay of personal meaning systems, self-regulatory processes, and socialization experiences.

Because the study employed a cross-sectional correlational design, these findings should be interpreted as predictive associations rather than evidence of causal effects. The high explanatory power of the model should also be interpreted cautiously because shared variance among the predictors may contribute to the overall R^2. Future studies could strengthen the evidence by using longitudinal designs, larger and more nationally representative samples, multi-method or informant-based assessments, and measurement models that directly test the distinctiveness of spiritual intelligence and self-regulation in piety. Such approaches would help clarify temporal relationships, reduce potential common-method bias, and determine whether the predictive pattern identified here remains stable across different Indonesian student populations and educational contexts.

Summary and Interpretation of Findings

The present study examined whether spiritual intelligence, self-regulation in piety, and parental attitudes toward children independently and jointly predict achievement motivation among university students in Indonesia. All three predictors showed significant positive associations with achievement motivation, and the overall regression model accounted for a large proportion of explained variance (R^2 = .922). However, this unusually high explanatory value should be interpreted cautiously rather than as evidence of near-complete prediction. The model indicates substantial shared explanatory power among the predictors, but the cross-sectional design, self-report measurement strategy, and potential overlap among closely related psychological constructs mean that the magnitude of R^2 should not be interpreted as evidence that achievement motivation is almost entirely determined by these three variables.

The strongest standardized predictor was self-regulation in piety (β = .663), followed by spiritual intelligence (β = .203) and parental attitudes toward children (β = .143). This pattern suggests that the capacity to translate internalized religious values into deliberate regulation of cognition, emotion, motivation, and behavior may have particular relevance to achievement-oriented functioning. This interpretation is consistent with the broader self-regulation literature, which identifies motivational regulation as an essential component of sustained engagement, effort, and persistence in academic settings (Otuka et al., 2025; Zhao et al., 2024). A recent systematic review and meta-analysis similarly concluded that motivational self-regulation is a central component of self-regulated learning and that specific motivational-regulation strategies can be meaningfully targeted through educational interventions (Villar et al., 2024; Theobald, M. 2021).

The present finding also extends previous Indonesian evidence linking self-regulation to learning motivation and academic functioning (Yuzarion et al., 2024; Santoso & Yuzarion, 2021). Contemporary research among university students further indicates that motivation and self-regulated learning develop through reciprocal processes involving goal orientation, self-efficacy, reflective learning, and social interaction. For example, a longitudinal qualitative study of university students found that motivation and self-regulated learning can develop together through changes in task interest, outcome expectations, goals, and self-efficacy within supportive learning environments. Likewise, research on university students' study habits indicates that self-regulation is embedded in everyday routines and can be challenged by ineffective study habits, difficulties managing time, fluctuations in motivation, and the need to regulate digital distractions such as smartphone use (David et al., 2024; Deng et al., 2024).

The relatively strong role of self-regulation in piety therefore may reflect more than religiosity itself. Rather, it may indicate that religiously grounded standards function as personally meaningful regulatory goals that organize effort, persistence, and behavioral control. This interpretation is theoretically compatible with Social Cognitive Theory, in which self-regulation involves forethought, performance control, self-reflection, and the monitoring of progress toward personally meaningful standards (Zimmerman, 2000; Pintrich, 2004). The distinctive contribution of the present study is to suggest that, within this Indonesian sample, such regulatory processes may also be organized around explicitly Islamic value commitments. Nevertheless, because the study did not directly compare self-regulation in piety with a general self-regulation measure, the incremental contribution of its religious component cannot be established definitively.

Spiritual Intelligence and Achievement Motivation

Spiritual intelligence was positively associated with achievement motivation, supporting H1. The finding is compatible with the proposition that meaning-making, reflective awareness, transcendence, and value integration can provide students with an organizing framework for interpreting academic goals and setbacks (Zohar & Marshall, 2001; King & DeCicco, 2009). Previous research has linked spiritual intelligence with academic achievement, resilience, learning engagement, and psychological well-being (Madadha et al., 2026; Anwar et al., 2020; Hakim & Sari, 2025; Imron et al., 2023; Yuzarion et al., 2024; Ozdemir Koyu et al., 2024).

Related evidence from Indonesian educational settings also supports a positive association between spiritual intelligence and learning-related outcomes. Studies among Indonesian university students have reported that spiritual intelligence is positively associated with academic achievement (Alfatihah, 2024; Waskito et al., 2022). Similarly, Dioventa and Nirwana (2024) found that spiritual intelligence positively predicted learning outcomes among undergraduate students enrolled in a Sharia Accounting course. Taken together, these findings suggest that spiritual intelligence may contribute to students' educational functioning by supporting meaning, motivation, and goal-directed engagement in learning.

However, the present result should not be interpreted to mean that spiritual intelligence directly causes achievement motivation. An alternative explanation is that students who are already highly motivated may be more likely to interpret academic experiences through meaning-oriented and reflective frameworks, thereby producing a reciprocal association. In addition, because both

constructs were assessed using self-report questionnaires, shared response tendencies may have inflated their observed relationship. Thus, the result is better understood as evidence that spiritual intelligence is a relevant correlate within the proposed motivational system rather than as proof of a one-way causal pathway.

This interpretation also supports, but does not independently establish, the Spiritual Intelligence Framework (Zohar & Marshall, 2001). The framework proposes that spiritual intelligence enables individuals to construct meaning and orient behavior according to broader values, which may help explain why students who report higher spiritual intelligence also report stronger achievement motivation. Yet the present study cannot determine whether meaning-making precedes motivational orientation, whether motivation strengthens meaning-making, or whether both are influenced by a third factor such as religious socialization, personality, or perceived academic purpose.

Self-Regulation in Piety as the Strongest Predictor

Self-regulation in piety emerged as the strongest predictor of achievement motivation. This result is theoretically important because it suggests that internalized religious values may operate not merely as beliefs but as standards for self-monitoring and behavioral regulation. In this interpretation, piety becomes motivationally relevant when values are translated into concrete regulatory processes such as goal setting, planning, monitoring, impulse control, reflection, and persistence. Research on self-regulated learning supports the central role of motivational regulation in maintaining academic effort and persistence, while recent university-level studies similarly show that self-regulation is closely connected with motivational and learning outcomes (Otuka et al., 2025; Zhao et al., 2024; Yuzarion et al., 2024).

The magnitude of the coefficient should nevertheless be interpreted with caution. The three predictors were entered simultaneously, and the standardized coefficient for self-regulation in piety may partly reflect variance shared with spiritual intelligence and parental attitudes. The multicollinearity diagnostics reported in the Methods provide some reassurance that severe multicollinearity was not detected (VIF = 4.766 for spiritual intelligence, 5.468 for self-regulation in piety, and 2.312 for parental attitudes toward children). However, VIF values near 5 indicate meaningful predictor overlap that warrants substantive consideration even when conventional cutoffs for severe multicollinearity are not exceeded. Therefore, the finding that self-regulation in piety is the "strongest predictor" should be understood as the strongest standardized predictor within this specific model and sample, rather than as proof that it is universally the most important determinant of achievement motivation.

Another important consideration is conceptual proximity. Self-regulation in piety and achievement motivation may share behavioral characteristics such as goal orientation, persistence, responsibility, and self-monitoring. If these constructs are operationalized with overlapping item content or similar response formats, the resulting association may be amplified. Future studies should therefore directly compare discriminant validity between general self-regulation, self-regulation in piety, and achievement motivation using confirmatory factor analysis or other latent-variable approaches.

Parental Attitudes and Achievement Motivation

Parental attitudes toward children also showed a significant positive association with achievement motivation, supporting H3. This finding is consistent with research emphasizing the role of parental autonomy support, warmth, communication, and academic socialization in the development of motivational orientations. Previous studies have shown that parental support can contribute to motivation through psychological needs satisfaction, self-control, and internalization of academic values (Bai et al., 2026; Zhao, Ren, & Yang, 2023; Mâță et al., 2026; Le Thi, 2026).

Recent empirical research further demonstrates that parental autonomy support is associated with psychological-needs satisfaction and self-control, which are, in turn, related to intrinsic and extrinsic academic motivation (Çelik, 2024). Evidence from university students further supports the relevance of parental autonomy support for autonomous academic regulation. In a study of Chinese

university students, Wei et al. (2022) found that parental autonomy support was positively associated with basic psychological-needs satisfaction, which was also related to students' autonomous regulation of learning. In the Indonesian context, research among Muslim students similarly indicates that parental autonomy support, behavioral control, and supportive parental responses are relevant to autonomous academic motivation (Simbolon et al., 2023). Taken together, these findings underscore the importance of the parental environment in shaping students' motivational processes, particularly by supporting psychological needs and fostering more autonomous forms of academic motivation.

These findings are consistent with Social Cognitive Theory (Bandura, 1986), in which social environments can shape self-efficacy, standards, expectations, and behavioral regulation through modeling and reinforcement (Baumeister & Vohs, 2016; Rafiola et al., 2023). They are also compatible with Self-Determination Theory, which emphasizes the importance of autonomy support and the satisfaction of basic psychological needs for adaptive motivation (Ryan & Deci, 2000).

Research on parental control and autonomy support further suggests that parenting practices may have important implications for students' academic motivation and achievement. A large meta-analysis of 144 studies involving more than 79,000 students showed that autonomy-supportive environments contribute to psychological-needs satisfaction and self-determined motivation (Howard et al., 2021). Consistent with this broader evidence, Gordeeva et al. (2024), studying 467 university students in Russia, found that parental autonomy support was positively associated with intrinsic academic motivation, which in turn contributed to academic performance, whereas parental control was associated with less adaptive forms of motivation, including amotivation.

The significant positive association between parental attitudes toward children and achievement motivation in the present study is consistent with evidence that supportive parental practices can contribute to positive developmental outcomes. Sawada et al. (2024), for example, found that adolescents who perceived greater parental autonomy support and lower psychological control were more likely to belong to a more favorable creativity trajectory group. This finding suggests that the quality of the parental environment may provide an important social context for the development of adaptive psychological and motivational capacities.

At the same time, the relatively smaller standardized coefficient for parental attitudes ($\beta = .143$) suggests that family influences should not be interpreted as operating independently of students' internal regulatory resources. For university students, parental effects may be increasingly indirect and internalized through values, expectations, identity development, and learned regulatory patterns. The present cross-sectional design does not allow us to distinguish among these pathways. It is therefore possible that parental attitudes shape achievement motivation earlier in development and that their influence is subsequently mediated by self-regulation, self-efficacy, or internalized values.

Integrative Theoretical Interpretation

Taken together, the findings provide support for an integrative account of achievement motivation that combines personal, regulatory, spiritual, and family processes. The pattern is compatible with McClelland's (1961) need-for-achievement framework because achievement motivation involves standards of excellence, responsibility, persistence, and engagement with challenging goals. However, the present findings suggest that these achievement-oriented tendencies may be supported by different psychological and social mechanisms. Spiritual intelligence may provide meaning and value orientation; self-regulation in piety may convert internalized values into disciplined action; and parental attitudes may contribute to the socialization of expectations, competence beliefs, and motivational standards.

This interpretation also extends rather than replaces contemporary motivational theories. From a self-regulated learning perspective, motivation is maintained through active monitoring and regulation of behavior and effort (Zimmerman, 2000; Pintrich, 2004). From a self-determination perspective, supportive social environments may facilitate internalization and autonomous

motivation (Ryan & Deci, 2000). From a social-cognitive perspective, behavior develops through reciprocal interactions among individuals, behavior, and environmental conditions (Bandura, 1986). The present model adds a culturally situated spiritual dimension by examining whether self-regulatory processes explicitly grounded in Islamic piety are associated with achievement motivation.

Importantly, the three predictors should not be regarded as three isolated determinants. Their substantial joint explanatory value may partly arise because they represent interconnected domains of students' psychological functioning. A student who derives meaning from spiritual beliefs may also be more likely to regulate behavior according to those beliefs and to come from a family environment that reinforces related values. Consequently, the R^2 of .922 may reflect genuine integration among the constructs, but it may also be affected by shared variance, common measurement method, construct similarity, and sample-specific characteristics. This more cautious interpretation is essential because an R^2 approaching unity is unusual in complex behavioral research and should not be interpreted uncritically as evidence that almost all achievement motivation is explained by the three predictors.

Practical Implications

The findings suggest that efforts to strengthen achievement motivation may benefit from interventions that integrate self-regulation, meaning-oriented reflection, and supportive social contexts rather than relying exclusively on conventional study-skills training. Motivational self-regulation strategies can be incorporated into academic-support programs through goal setting, self-monitoring, reflection, and persistence-building activities (Otuka et al., 2025).

Recent evidence indicates that motivational self-regulation can be supported through strategies that strengthen students' perceptions of task value, personal significance, and the utility of academic activities (Villar et al., 2024). Such evidence suggests that interventions should be responsive to individual differences in students' motivational beliefs and should provide opportunities for students to identify personally meaningful reasons for engaging with academic tasks. Within the Indonesian context, these programs could be adapted to provide culturally responsive opportunities for students to connect academic goals with personally meaningful values and, where relevant, ethical commitments, while recognizing individual differences in religious orientations, personal values, and motivational pathways.

For families, the findings support the value of autonomy-supportive communication, encouragement, constructive feedback, and emotional availability rather than excessive control. This recommendation is consistent with evidence that parental autonomy support can contribute indirectly to academic motivation through psychological-needs satisfaction and self-control. (Frontiers) For universities, interventions could combine academic self-regulation training with culturally responsive mentoring and values clarification. Such programs should be evaluated experimentally rather than assuming that the correlational associations identified in this study will translate automatically into intervention effects.

Limitations and Future Research

Several limitations should be considered when interpreting these findings. First, the cross-sectional design prevents conclusions about temporal ordering or causality. Although the predictors statistically predicted achievement motivation in the regression model, reciprocal or alternative causal pathways remain possible (Vitous, 2026; Yuzarion et al., 2024). Longitudinal designs are therefore needed to determine whether spiritual intelligence and self-regulation in piety precede changes in achievement motivation or whether motivational development contributes to subsequent changes in these constructs.

Second, all major variables were measured using self-report questionnaires completed within the same data-collection context. This creates the possibility of common method variance, social desirability, acquiescence, and consistency biases. This issue may be particularly important for spiritual and religious constructs because respondents may be motivated to present themselves in

socially desirable ways. Consequently, the high R^2 may partly reflect shared measurement method rather than purely substantive explanatory power. Future research should combine self-report data with behavioral indicators, academic records, repeated measurements, peer or parent reports, and, where feasible, objective indicators of persistence and achievement. Mixed-method or multimethod approaches may also strengthen construct interpretation (Creswell & Plano Clark, 2018; Aqmar, 2025; Gao, 2025).

Third, the multicollinearity diagnostics warrant a cautious interpretation of the joint model. Although the VIF values did not reach conventional thresholds for severe multicollinearity, the values for spiritual intelligence and self-regulation in piety (4.766 and 5.468, respectively) indicate meaningful shared variance. This suggests that the predictors should not be interpreted as completely independent explanatory domains. Future research should examine their discriminant validity using latent-variable methods, such as CFA or SEM, and directly test whether self-regulation in piety provides incremental explanatory value beyond general self-regulation or spiritual intelligence.

Fourth, the sample was recruited from West Sumatra, DKI Jakarta, and the Special Region of Yogyakarta. Although these settings provide geographic diversity, they do not constitute a nationally representative sample of Indonesian university students. Cultural, institutional, socioeconomic, and regional differences may influence the relationships among spirituality, family processes, and achievement motivation. Therefore, generalization should be limited to students with characteristics comparable to those represented in the present sample. Replication across additional Indonesian provinces, public and private institutions, different fields of study, and different levels of religiosity is needed to assess the robustness of the findings.

Fifth, the very high proportion of participants classified in the high category across all constructs may indicate restricted variability. Such restriction can complicate interpretation of regression relationships and raises the possibility that the observed model reflects characteristics of this particular sample rather than a general population pattern. Future studies should recruit more heterogeneous samples and explicitly examine the distributional properties of the constructs before estimating predictive models.

Finally, alternative theoretical models deserve direct empirical testing. The present study specified spiritual intelligence, self-regulation in piety, and parental attitudes as predictors of achievement motivation, but other models are equally plausible. For example, parental attitudes may influence achievement motivation indirectly through self-regulation or self-efficacy; spiritual intelligence may mediate the association between religious socialization and achievement motivation; and achievement motivation may reciprocally influence the development of self-regulatory practices. Future research should therefore compare competing mediation, moderation, longitudinal, and reciprocal models rather than assuming a single directional structure (Imron et al., 2023; Hakim & Sari, 2025).

Overall, the present findings contribute to the literature by indicating that achievement motivation among Indonesian university students is associated with an interplay of spiritual meaning, religiously grounded self-regulation, and family socialization. The principal theoretical contribution lies not in claiming that these three variables almost completely determine achievement motivation, but in demonstrating the potential relevance of integrating spiritual and culturally situated self-regulatory processes into established achievement-motivation frameworks. The unusually high explanatory value of the model should be treated as a finding requiring further replication and methodological scrutiny rather than as definitive evidence of near-perfect prediction.

Conclusion

This study provides evidence that spiritual intelligence, self-regulation in piety, and parental attitudes toward children are jointly associated with university students' achievement motivation in Indonesia. The three-predictor model accounted for a substantial proportion of variance in

achievement motivation (R^2 = .922), with self-regulation in piety showing the strongest standardized predictive association, followed by spiritual intelligence and parental attitudes toward children. Taken together, the findings suggest that students' achievement motivation is associated not only with individual achievement-oriented tendencies but also with meaning-oriented and self-regulatory resources and the social context in which students develop. The findings also extend the application of McClelland's need-for-achievement perspective by situating achievement motivation within a culturally meaningful psychological context. Rather than replacing achievement motivation theory, the present results suggest that achievement-oriented behavior may be expressed in conjunction with spiritual meaning, intentional self-regulation grounded in Islamic values, and parental socialization. This perspective provides a more context-sensitive account of achievement motivation among university students in Indonesia while retaining McClelland's emphasis on the individual's orientation toward accomplishment and goal attainment.

From an applied perspective, the findings suggest that efforts to strengthen university students' achievement motivation may benefit from addressing multiple levels of influence, including students' capacity for value-based self-regulation, their spiritual meaning-making, and the quality of supportive parental relationships. Such approaches should, however, remain sensitive to individual differences in religious orientation, personal values, and family experiences rather than assuming a uniform motivational pathway across students. Finally, the findings should be interpreted in light of the study's cross-sectional and self-report design. The regression coefficients indicate statistical prediction and should not be interpreted as evidence of causal effects. The high explanatory power of the model also warrants cautious interpretation because shared variance and common-method influences may contribute to the observed associations. Future longitudinal and multi-method research should therefore examine whether these factors prospectively predict changes in achievement motivation and clarify the psychological processes through which spiritual, self-regulatory, and parental factors are associated with students' motivation to achieve.

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