Mastery Goal Orientation, Social Learning, and Qur'an-Hadith Learning Performance among Madrasah Aliyah Students in Indonesia: A PLS-SEM Mediation Analysis

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Abstract

Value-laden religious subjects such as Qur'an–Hadith combine cognitive mastery, recitation skill, textual interpretation, and the behavioral internalization of values, a multidimensional target that conventional, cognition-focused achievement measures capture only partially, and whose underlying motivational and social mechanisms remain empirically underexamined. Drawing on achievement-goal theory and Bandura's social cognitive theory, this study tests whether social learning mediates the effect of students' mastery goal orientation on Qur'an–Hadith learning performance, with performance operationalized as a five-dimensional construct rather than as cognitive test scores alone. Using an explanatory cross-sectional survey, 280 of 935 grade-XI students across three Madrasah Aliyah in Padang City, Indonesia, were selected by proportional random sampling and completed a Likert-scale questionnaire, which was analyzed with partial least squares structural equation modeling (PLS-SEM). Mastery goal orientation significantly predicted learning performance ($\beta = 0.416$) and social learning ($\beta = 0.728$); social learning significantly predicted learning performance ($\beta = 0.473$) and complementarily mediated the orientation–performance relationship (indirect $\beta = 0.345$), with the model explaining 68.3% of the variance in performance and 53.1% in social learning (all $p < 0.05$). These estimates carry one caveat: discriminant validity is supported only marginally (maximum HTMT = 0.892 against the 0.90 benchmark; the Fornell–Larcker criterion is not met), so the social-learning/performance boundary is empirically thin, and single-source self-report data raise common-method-bias concerns. The findings tentatively support pairing individual mastery-oriented strategies with structured peer- and teacher-modeling in Islamic secondary education, and point to multi-source or longitudinal designs to confirm the construct boundary.

Keywords: Mastery goal orientation; Social learning; Qur'an–Hadith learning performance; Madrasah Aliyah; PLS-SEM

Introduction

Value-based religious subjects occupy a distinctive place in the literature on academic motivation. Unlike general secular subjects, their intended outcomes combine cognitive mastery with recitation skill, textual interpretation, and the behavioral internalization of values, a multidimensional target that conventional, cognition-focused achievement measures capture only partially. In Indonesia, this demand is institutionalized in Madrasah Aliyah (MA), where the Qur'an-Hadith curriculum epitomizes it, and the national education law mandates active student participation.[1] Accordingly, this study defines Qur'an-Hadith learning performance not as cognitive test scores alone but as a five-dimensional construct spanning cognitive understanding, recitation proficiency, comprehension of verse and hadith content, practice of the values conveyed, and self-monitoring of learning (operationalized in the Method).

Two features make this an unusually demanding case. First, students must coordinate memorization and cognitive mastery with correct tajwīd and the internalization of moral values, so performance is behavioral and affective as well as cognitive. Second, the mechanisms driving how far it depends on students' own motivational orientation versus the social and modeling environment of the madrasah have received little quantitative attention, even though rising academic demands are known to erode adolescents' intrinsic motivation at the secondary level.[2] Existing accounts of Qur'an-Hadith outcomes rely predominantly on cognitive test scores, leaving the recitative, value-practice, and self-monitoring dimensions largely unmeasured. The problem is thus both substantive and methodological: it is unclear which mechanisms most effectively improve performance, and prevailing measures are too narrow to capture gains in the dimensions the curriculum prioritizes most.

The study centers on mastery goal orientation, rooted in Dweck and Leggett's model, distinguishing mastery-oriented from performance-oriented (helpless) response patterns,[3] whereby students focused on mastering material sustain effort and persist

[1] Statistics Agency of the City of Padang, Education Statistics of Padang City 2023/2024 (Padang: BPS Padang City, 2024).
[2] M. C. Pascoe, S. E. Hetrick, and A. G. Parker, "The Impact of Stress on Students in Secondary School and Higher Education," International Journal of Adolescence and Youth 25, no. 1 (2020): 104–12, https://doi.org/10.1080/02673843.2019.1596823.
[3] C. S. Dweck and E. L. Leggett, "A Social-Cognitive Approach to Motivation and Personality," Psychological Review 95, no. 2 (1988): 256–73, https://doi.org/10.1037/0033-295X.95.2.256.

through difficulty.[4] It is related to but distinct from growth mindset whose predictive value is itself debated in recent large-scale replications[5] and from self-regulation, the cyclical process of forethought, performance, and self-reflection through which learners direct their own learning.[6] The mastery-orientation–performance link is well established across digital game-based learning,[7] medical training,[8] and social studies instruction,[9] indicating it generalizes across diverse domains.

This framework is extended here through social cognitive theory, in which learning behavior arises from reciprocal interaction among personal, environmental, and modeling factors.[10] Mastery orientation alone has limits, as it emphasizes internal motivation without accounting for the social climate in which students learn; one study of medical students found that the orientation–learning-approach relationship was itself shaped by the perceived learning environment.[11] Positioning social learning as a mediator, therefore, matters: peer modeling, teacher–student relationships, and a supportive madrasah environment can reinforce internal orientation and jointly raise performance. This mediating logic is supported across settings peer relationships affect achievement directly and through motivation and engagement,[12] collaborative learning mediates the effect of a distributed learning environment on performance,[13] peer and teacher interaction operate

[4] I. Sánchez-Cardona, A. Ortega-Maldonado, M. Salanova, and I. Martínez, "Learning Goal Orientation and Psychological Capital among Students: A Pathway to Academic Satisfaction and Performance," Psychology in the Schools, advance online publication, 2021, https://doi.org/10.1002/pits.22505.
[5] D. S. Yeager and C. S. Dweck, "What Can Be Learned from Growth Mindset Controversies?" American Psychologist 75, no. 9 (2020): 1269–84, https://doi.org/10.1037/amp0000794.
[6] B. J. Zimmerman, "Attaining Self-Regulation: A Social Cognitive Perspective," in Handbook of Self-Regulation, ed. M. Boekaerts, P. R. Pintrich, and M. Zeidner (San Diego: Academic Press, 2000).
[7] J. C. Yang, C. J. Chung, and M. S. Chen, "Effects of Performance Goal Orientations on Learning Performance and In-Game Performance in Digital Game-Based Learning," Journal of Computer Assisted Learning 38, no. 2 (2022): 422–39, https://doi.org/10.1111/jcal.12622.
[8] C. K. Boscardin, J. Bullock, P. O'Sullivan, and K. Hauer, "Profiles for Success: Examining the Relationship between Student Profiles and Clerkship Performance Using Latent Profile Analysis," Teaching and Learning in Medicine 34, no. 2 (2022): 145–54, https://doi.org/10.1080/10401334.2021.1937180.
[9] S. Üztemur, "Achievement Goals and Learning Approaches in the Context of Social Studies Teaching: Comparative Analysis of 3x2 and 2x2 Models," Participatory Educational Research 7, no. 2 (2020): 1–18, https://doi.org/10.17275/per.20.16.7.2.
[10] A. Bandura, "Social Cognitive Theory," in The International Encyclopedia of Media Psychology (2019), https://doi.org/10.4324/9780429491146-7.
[11] Boscardin et al., "Profiles for Success."
[12] Y. Shao, S. Kang, Q. Lu, C. Zhang, and R. Li, "How Peer Relationships Affect Academic Achievement among Junior High School Students: The Chain Mediating Roles of Learning Motivation and Learning Engagement," BMC Psychology 12 (2024): 278, https://doi.org/10.1186/s40359-024-01780-z.
[13] D. Wang, Z. Jing, and L. Qin, "Influence of a Distributed Learning Environment on Learners' Performance," International Journal of Emerging Technologies in Learning 18, no. 9 (2023): 117–30, https://doi.org/10.3991/ijet.v18i09.37829.

through the double mediation of collaborative learning and engagement,[14] and in an Indonesian higher-education setting, social influence mediated sociocultural effects on performance.[15]

Three gaps motivate this study. First, such mediation models have been tested in game-based learning,[16] medical education,[17] business and social studies classrooms,[18] distributed and collaborative higher education,[1920] and AI-assisted language learning,[21] but not for an outcome that simultaneously combines cognitive, recitative, and value-internalization demands, as Qur'an-Hadith learning does so whether the mediating structure holds here is an open question, not mere geographic replication. Second, prior work models social or collaborative learning mainly as a mediator of environmental or technological factors, rather than as the mechanism that transmits an internal orientation to performance, leaving it unclear whether social learning genuinely mediates mastery goal orientation. Third, prevailing Qur'an-Hadith measures rely on cognitive scores, echoing a longstanding concern that such instruments miss the affective and behavioral dimensions of learning.[22] The study therefore makes two contributions: it reconceptualizes and tests Qur'an-Hadith performance as a multidimensional outcome and extends the achievement-goal and social-cognitive mediation logic to a values-laden religious subject where such modeling is rare; and by specifying social learning as a formal mediator of an internal orientation, it clarifies whether interventions should target individual motivation, the social environment, or both.

Four hypotheses follow: mastery goal orientation has a positive direct effect on learning performance (H1) and on social learning (H2); social learning has a positive

[14] M. A. Qureshi, A. Khaskheli, J. A. Qureshi, S. A. Raza, and S. Q. Yousufi, "Factors Affecting Students' Learning Performance through Collaborative Learning and Engagement," Interactive Learning Environments 31, no. 4 (2023): 2371–91, https://doi.org/10.1080/10494820.2021.1884886.
[15] M. S. Simatupang, G. Tambunsaribu, R. Peter, R. Gunawan, and E. Murniarti, "The Mediating Role of Social Influence in ChatGPT-Assisted English Learning Performance: A Sociocultural Analysis in Indonesian Higher Education," International Journal of Education and Practice 14, no. 1 (2025): 554–79, https://doi.org/10.18488/61.v14i1.4770.
[16] Yang, Chung, and Chen, "Effects of Performance Goal Orientations."
[17] Boscardin et al., "Profiles for Success."
[18] Üztemur, "Achievement Goals and Learning Approaches."
[19] Wang, Jing, and Qin, "Influence of a Distributed Learning Environment."
[20] Qureshi et al., "Factors Affecting Students' Learning Performance."
[21] Simatupang et al., "The Mediating Role of Social Influence."
[22] A. P. Rovai, M. J. Wighting, J. D. Baker, and L. D. Grooms, "Development of an Instrument to Measure Perceived Cognitive, Affective, and Psychomotor Learning in Traditional and Virtual Classroom Higher Education Settings," Internet and Higher Education 12, no. 1 (2009): 7–13, https://doi.org/10.1016/j.iheduc.2008.10.002.

direct effect on learning performance (H3); and social learning mediates the mastery-orientation–performance relationship (H4). Accordingly, this study analyzes the direct and indirect (social-learning-mediated) effects of mastery goal orientation on Qur'an-Hadith learning performance among Madrasah Aliyah students in Padang City.

Methodology

This study employed a quantitative research method with an explanatory design to test the direct and indirect (mediated) relationships among Mastery Goal Orientation, Social Learning, and Learning Performance within a structural model. An explanatory design was selected because the study's objective is not merely to describe the level of each variable, but to test a pre-specified set of causal-path hypotheses (H1–H4) derived from theory. Mastery Goal Orientation is the independent variable, Social Learning is the mediating variable, and Learning Performance is the dependent variable.

Because this is a cross-sectional survey (data collected at a single point in time), the relationships tested are correlational and interpreted through the underlying theoretical framework, rather than causal in the strict experimental sense, a limitation revisited in the Discussion. Partial Least Squares Structural Equation Modeling (PLS-SEM) was used to estimate the measurement and structural models simultaneously; the rationale for this choice is detailed in the Data Analysis Technique subsection below.

The study was conducted at three Madrasah Aliyah in Padang City: MAN 1 Padang City, MAN 2 Padang City, and MAS Batang Kabung. These schools were those covered by the institutional research permit and accessible within the data-collection window; together, they include both public (negeri) and private (swasta) madrasahs and multiple accreditation levels, providing institutional variation that is reported descriptively in Table 1 rather than used as a sampling stratum. Accreditation status was not itself a basis for site selection. The permit issued by the Kota Padang Office of the Ministry of Religious Affairs authorized data collection at six madrasahs, of which these three were retained. Because proportional allocation assigns the smallest school a correspondingly small quota (n = 9; Table 2), the estimates are effectively dominated by the two larger public madrasahs, a point revisited in the Limitations. Data were collected from 3 February to 30 March 2026 (see Data Collection Procedure).

The population of this study comprised all grade XI (Year 11) students at the three selected Madrasah Aliyah in Padang City, totaling 935 students, as detailed in Table 1.

Table 1.
Student Population by School

No.	Madrasah	Status	Accreditation	Population
1	MAN 1 Padang City	Public (Negeri)	A	362
2	MAN 2 Padang City	Public (Negeri)	A	542
3	MAS Batang Kabung	Private (Swasta)	C	31
	Total			935

Source: Padang City Madrasah Education Office (Penmad), 2026

The sample size was determined using Slovin's formula with a 5% margin of error, as summarized below.

Symbol	Description	Value
N	Total population	935 students
e	Margin of error	5% (0.05)
Formula	$n = N / (1 + Ne^2)$	—
Step 1	$N \times e^2 = 935 \times 0.0025$	2.3375
Step 2	$1 + Ne^2$	3.3375
Step 3	$n = 935 / 3.3375$	280.15
Result	n (rounded)	= 280 students

This proportional random sampling design ensures that each madrasah, as a subgroup within the population, receives sample representation proportional to its share of the total student population. Consequently, the resulting sample distribution mirrors the actual population proportions, yielding findings that more accurately reflect population conditions.

Sample allocation followed a two-step proportional random sampling procedure. First, the total sample of 280 was allocated across the three schools according to each school's share of the combined population, using the following formula:

Proportional Sample Allocation per School

Symbol	Description
$n_i = (N_i / N) \times n$	Proportional allocation formula
n_i	Sample size drawn from school i
N_i	The student population of the school is
N	Combined population of the three schools (935)
n	Total sample size (280)

Applying this formula to each school's population yields the sample distribution presented in Table 2.

Table 2.
Population and Sample Distribution Across the Three Madrasah Aliyah

No.	Madrasah	Population (N)	Proportion (%)	Sample (n)
1	MAN 1 Padang City	362	38.72%	109
2	MAN 2 Padang City	542	57.97%	162

3	MAS Batang Kabung	31	3.32%	9
Total		935	100%	280

Second, within each school, individual respondents were selected using simple random sampling from the school's student roster, giving each student an equal probability of selection once the school-level quota had been determined.

Data were collected using a self-administered questionnaire measuring three latent constructs: Mastery Goal Orientation (X1), Social Learning (Z), and Qur'an-Hadith Learning Performance (Y). Each item was rated on a 5-point Likert scale (1 = Strongly Disagree $SangatTidakSetuju$ to 5 = Strongly Agree $SangatSetuju$), with response options labeled SS (Sangat Setuju), S (Setuju), N (Netral/Ragu-ragu), TS (Tidak Setuju), and STS (Sangat Tidak Setuju).[23]

The researcher constructed items measuring Mastery Goal Orientation and Social Learning with reference to the theoretical dimensions set out in the literature review mastery goal orientation for Mastery Goal Orientation, and the observation–imitation–modeling process central to Social Cognitive Theory for Social Learning (see Table 3) and contextually adjusted for Qur'an-Hadith learning in Madrasah Aliyah; one item (Mastery Goal Orientation item 9 "Saya mengatur waktu belajar Al-Qur'an Hadis secara teratur," under the Self-Regulation sub-indicator) was developed specifically for this study, as no existing item matched its specific content. The Learning Performance instrument was likewise developed entirely by the researcher, grounded in the self-assessment construct within the self-regulated learning (SRL) framework[24][25][26], because no standardized instrument specifically measuring Qur'an-Hadith learning performance was found in the literature. Instrument construction followed a five-stage procedure: (1) planning, formulating objectives, and translating variables into sub-variables and indicators; (2) constructing the instrument blueprint (kisi-kisi); (3) item writing aligned

[23] J. T. Croasmun and L. Ostrom, "Using Likert-Type Scales in the Social Sciences," Journal of Adult Education 40, no. 1 (2011): 19–22.
[24] H. L. Andrade, "A Critical Review of Research on Student Self-Assessment," Frontiers in Education 4 (2019): 87, https://doi.org/10.3389/feduc.2019.00087.
[25] Z. Yan and D. Carless, "Self-Assessment Is about More Than Self: The Enabling Role of Feedback Literacy," Assessment & Evaluation in Higher Education 47, no. 7 (2021): 1116–28, https://doi.org/10.1080/02602938.2021.2001431.
[26] Z. Yan, "Self-Assessment in the Process of Self-Regulated Learning and Its Relationship with Academic Achievement," Assessment & Evaluation in Higher Education 45, no. 2 (2020): 224–38, https://doi.org/10.1080/02602938.2019.1629390.

with each indicator; (4) editing, including completion of response instructions; and (5) item scoring.

Table 3.
Operationalization of Research Variables

Construct	Operational Definition	Indicator	Items	Scale
Mastery Goal Orientation (X1)	Students' tendency to view learning as mastery of material, skill development, and learning from experience rather than merely pursuing grades or recognition reflects the mastery goal orientation dimension in achievement goal theory.[27][28]	Learning Intention	3 (items 1–3)	Likert 1–5
		Learning Perception	4 (items 4–7)	Likert 1–5
		Self-Regulation	3 (items 8–10)	Likert 1–5
Social Learning (Z)	The extent to which classroom learning facilitates learning through observation, imitation, and modeling of teacher/peer behavior, supported by a social environment fostering attention, retention, reproduction, and motivation.[29]	Imitation	3 (items 1–3)	Likert 1–5
		Observation	3 (items 4–6)	Likert 1–5
		Modeling	4 (items 7–10)	Likert 1–5
Qur'an-Hadith Learning Performance (Y)	Students' learning achievement in the Qur'an-Hadith subject, assessed through self-assessment and encompassing cognitive understanding, recitation proficiency, comprehension of verse and hadith content, practice of the values conveyed, and self-monitoring of learning.[30][31][32]	Cognitive Outcomes	2 (items 1–2)	Likert 1–5
		Recitation Proficiency	2 (items 3–4)	Likert 1–5
		Comprehension of Content	2 (items 5–6)	Likert 1–5

[27] C. Ames, "Classrooms: Goals, Structures, and Student Motivation," Journal of Educational Psychology 84, no. 3 (1992): 261–71, https://doi.org/10.1037/0022-0663.84.3.261.
[28] C. S. Dweck, "Motivational Processes Affecting Learning," American Psychologist 41, no. 10 (1986): 1040–48, https://doi.org/10.1037/0003-066X.41.10.1040.
[29] A. Bandura, Social Learning Theory (Englewood Cliffs, NJ: Prentice-Hall, 1977).
[30] Andrade, "A Critical Review of Research on Student Self-Assessment."
[31] Yan and Carless, "Self-Assessment Is about More Than Self."
[32] Yan, "Self-Assessment in the Process of Self-Regulated Learning."

	Practice of Values	2 (items 7–8)	Likert 1–5
	Self-Monitoring	2 (items 9–10)	Likert 1–5

Representative items include, for Learning Intention: "I strive to improve my understanding of the material over time"; for Imitation: "I imitate how my teacher/ustadz reads the Qur'an"; for Cognitive Outcomes: "I understand the verse and hadith material well in class."

Two conceptually adjacent indicators warrant explicit disambiguation: the Self-Regulation indicator under Mastery Goal Orientation and the Self-Monitoring indicator under Learning Performance, both of which concern self-directed evaluation of learning. These are operationally distinguished in that the Mastery Goal Orientation indicator captures students' general, trait-like disposition toward regulating their own study strategies. In contrast, the Learning Performance indicator captures outcome-oriented self-evaluation specific to their Qur'an-Hadith results and achievement. This distinction is further examined empirically through discriminant validity testing (including the HTMT ratio) in the measurement model, described in the Data Analysis Technique subsection.

The instrument development procedure outlined above (planning, blueprint construction, item writing, editing, and scoring) constitutes the content-validity safeguard applied before fieldwork: item content was derived from established theoretical constructs and cross-checked against the operational definitions and indicators in Table 3, ensuring alignment between items and their intended indicators. No separate expert-judgment panel or pilot/try-out administration on a sample distinct from the main study is described in the materials provided for this study. Empirical validity and reliability of the instrument were instead assessed directly on the main sample (n = 280) through the PLS-SEM measurement (outer) model convergent validity via outer loadings and AVE, discriminant validity via cross-loading, Fornell-Larcker, and HTMT criteria, and reliability via Cronbach's Alpha, Composite Reliability, and rho_A as detailed in the Data Analysis Technique subsection and reported in Table 11 of the Results section.

This study used quantitative data from two sources. Primary data on Mastery Goal Orientation, Social Learning, and Learning Performance were collected directly from student respondents via a questionnaire. Secondary data school profiles, student enrollment figures, and accreditation status were obtained through documentation from

institutional records (used as the basis for determining the population and sample distribution in Table 1–2); secondary data did not include individual student exam or test scores, as Learning Performance was measured entirely through the self-assessment questionnaire rather than academic records.

Two data collection techniques were used: (1) documentation, to obtain supporting institutional data (student counts, school status, and accreditation); and (2) a questionnaire (angket), administered to student respondents across the three participating schools to measure the three study variables.

Institutional permission for data collection was obtained from the Kota Padang Office of the Ministry of Religious Affairs (Kantor Kementerian Agama Kota Padang), Research Data Collection Permit No. B-83/Kk. 03.9/TL.01/02/2026, issued 3 February 2026, on referral from the Dean of the Faculty of Social Sciences, Universitas Negeri Padang (Letter No. 0548E/UN35.6/LT/2026, dated 29 January 2026). Data collection took place from 3 February to 30 March 2026.

The questionnaire was administered in paper form, distributed and completed in person in the classroom setting at each of the three participating schools, under the joint supervision of the researcher and each class's homeroom teacher *(wali kelas)*. Before completing the questionnaire, students and their homeroom teachers were informed of the study's purpose, the voluntary nature of participation, the right to decline or withdraw at any time without consequence, and the confidentiality and anonymity of responses; no personally identifying information was collected.

Descriptive analysis was first conducted, including response distribution, mean, standard deviation, and Respondent Achievement Level (Tingkat Capaian Responden/TCR), calculated as the percentage of the mean score relative to the maximum possible score and interpreted against the criteria in Table 4.[33]

Table 4.
Respondent Achievement Level (TCR) Criteria

No.	Score Range	Category
1	90–100%	Excellent
2	80–89%	Good
3	65–79%	Adequate
4	55–64%	Poor
5	0–54%	Very Poor

[33] Riduwan, Metode dan Teknik Menyusun Proposal Penelitian (Bandung: Alfabeta, 2010).

Inferential analysis used Partial Least Squares Structural Equation Modeling (PLS-SEM) in SmartPLS 4. PLS-SEM was selected over covariance-based SEM (CB-SEM) for four reasons, none of which rests on the type of measurement model alone (both approaches accommodate reflective constructs). First, the study is prediction- and exploration-oriented: it aims to identify the mechanisms that improve learning performance and to maximize the variance explained in the target construct, which aligns with PLS-SEM's variance-based philosophy rather than CB-SEM's strictly confirmatory, fit-driven orientation.[34] Second, the Social Learning and, in particular, the Qur'an-Hadith Learning Performance instruments were newly developed for this study (no standardized measure existed; see Instrument Development), placing the analysis at an early, measurement-building stage for which variance-based estimation is well suited. Third, the data are ordinal Likert responses that need not satisfy multivariate normality, which PLS-SEM's non-parametric, bootstrap-based inference accommodates directly.[35] Fourth, the study reports out-of-sample predictive assessment (Q^2 and PLSpredict), native to the PLS-SEM framework. PLS-SEM does not, by itself, resolve the discriminant-validity questions examined below; estimator choice and the assessment of construct distinctness are treated as separate issues.

Measurement (outer) model evaluation assessed convergent validity via outer loadings (rule of thumb > 0.70) and Average Variance Extracted (AVE > 0.50); indicators with loadings between 0.40 and 0.70 were not automatically removed, but retained if their removal did not meaningfully improve AVE or construct reliability (Composite Reliability and rho_A), or if the indicator was theoretically important to the construct's content coverage.[36] Where any indicator loading falls below 0.70, the loading, AVE, Composite Reliability, and rho_A for the affected construct are reported explicitly, together with the academic rationale for retaining or removing the indicator, rather than a bare statement that the model is "valid."

[34] J. F. Hair, J. J. Risher, M. Sarstedt, and C. M. Ringle, "When to Use and How to Report Results of PLS-SEM," European Business Review 31, no. 1 (2019): 2–24, https://doi.org/10.1108/EBR-11-2018-0203.
[35] Hair et al., "When to Use and How to Report Results of PLS-SEM."
[36] Hair et al., "When to Use and How to Report Results of PLS-SEM."

Discriminant validity was assessed primarily through the heterotrait-monotrait ratio (HTMT), which Henseler, Ringle, and Sarstedt[37] show, via Monte Carlo simulation, to detect discriminant-validity problems more reliably than the Fornell-Larcker criterion and cross-loadings both of which they show to be unreliable when indicator loadings are uniformly moderate, as they are here. Following Henseler et al.,[38] the HTMT benchmark was set at 0.90, the value they recommend for conceptually related constructs; the three constructs form a single motivational–behavioral–outcome chain and are related by design, so 0.90 rather than the stricter 0.85 reserved for conceptually unrelated constructs is the appropriate threshold. The Fornell-Larcker criterion and cross-loadings are additionally reported for completeness and reader familiarity, but are not treated as decisive where they conflict with HTMT. The boundary between Social Learning and Learning Performance, and between Mastery Goal Orientation and Social Learning, is of particular interest given their shared relevance to the learning process despite distinct theoretical grounding (individual goal orientation per Ames[39] and Dweck;[40] social-interactional learning per Bandura[41]).

Reliability was assessed via Cronbach's Alpha (lower-bound estimate) and Composite Reliability (true reliability estimate), with values above 0.70 required, though 0.60 is acceptable for exploratory research[42]; rho_A was also reported as a reliability measure situated between Cronbach's Alpha and Composite Reliability, with a threshold of > 0.70.[43]

Structural (inner) model evaluation used the coefficient of determination (R^2) for endogenous constructs, and path coefficients with t-statistics for hypothesis testing (significant at $t > 1.96$, $p < 0.05$, from a bootstrapping procedure with 5,000 resamples). Because significance alone does not indicate the strength of a relationship, the structural model was further evaluated through: (1) multicollinearity testing among indicators and constructs via Variance Inflation Factor (VIF < 5)[44]; (2) f^2 effect size, indicating each

[37] J. Henseler, C. M. Ringle, and M. Sarstedt, "A New Criterion for Assessing Discriminant Validity in Variance-Based Structural Equation Modeling," Journal of the Academy of Marketing Science 43, no. 1 (2015): 115–35, https://doi.org/10.1007/s11747-014-0403-8.
[38] Henseler, Ringle, and Sarstedt, "A New Criterion for Assessing Discriminant Validity."
[39] Ames, "Classrooms: Goals, Structures, and Student Motivation."
[40] Dweck, "Motivational Processes Affecting Learning."
[41] Bandura, Social Learning Theory.
[42] Hair et al., "When to Use and How to Report Results of PLS-SEM."
[43] Hair et al., "When to Use and How to Report Results of PLS-SEM."
[44] Hair et al., "When to Use and How to Report Results of PLS-SEM."

exogenous construct's contribution to an endogenous construct's R^2, categorized as small (0.02), medium (0.15), or large (0.35)[45]; (3) Q^2 predictive relevance via the blindfolding procedure, with $Q^2 > 0$ indicating predictive relevance; (4) PLSpredict, assessing out-of-sample predictive power by comparing the model's Root Mean Square Error (RMSE) against a linear regression (LM) benchmark; and (5) 95% bootstrap confidence intervals for each path coefficient.

Hypothesis and mediation testing. A hypothesis was considered supported when its path coefficient was positive and statistically significant at $p \leq 0.05$, based on bootstrapping results. Because Social Learning is hypothesized to mediate the Mastery Goal Orientation → Learning Performance relationship (H4), mediation was tested explicitly via bootstrapping, following Zhao, Lynch, and Chen[46] and Hair et al.[47]: the direct effect (Mastery Goal Orientation → Learning Performance without Social Learning) and the indirect effect (via Social Learning) were both estimated, and their sum yields the total effect. Indirect-effect significance was assessed via bootstrapping (5,000 resamples), requiring $t > 1.96$, $p < 0.05$, and a 95% bootstrap confidence interval not crossing zero. Mediation type was classified as: full mediation (direct effect non-significant, indirect effect significant), partial mediation (both significant, with complementary or competitive sub-type determined by the consistency of effect direction), or no mediation (indirect effect non-significant, regardless of the direct effect).

Because Mastery Goal Orientation, Social Learning, and Learning Performance were all measured via self-report from the same respondents (students) collected at the same point in time (cross-sectional), there is potential for common method bias/common method variance (CMB/CMV), which can inflate observed relationships between variables beyond their true magnitude. To minimize this risk, procedural remedies recommended by Podsakoff et al.[48] were applied at the instrument design stage: (1) ensuring respondent anonymity and confidentiality to reduce social-desirability pressure; (2) writing items in simple, unambiguous language to reduce misinterpretation; (3)

[45] J. Cohen, Statistical Power Analysis for the Behavioral Sciences, 2nd ed. (Hillsdale, NJ: Lawrence Erlbaum Associates, 1988).
[46] X. Zhao, J. G. Lynch, and Q. Chen, "Reconsidering Baron and Kenny: Myths and Truths about Mediation Analysis," Journal of Consumer Research 37, no. 2 (2010): 197–206, https://doi.org/10.1086/651257.
[47] Hair et al., "When to Use and How to Report Results of PLS-SEM."
[48] P. M. Podsakoff, S. B. MacKenzie, J. Y. Lee, and N. P. Podsakoff, "Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies," Journal of Applied Psychology 88, no. 5 (2003): 879–903, https://doi.org/10.1037/0021-9010.88.5.879.

physically separating items belonging to different constructs (Mastery Goal Orientation, Social Learning, Learning Performance) within the questionnaire so that respondents could not easily infer the relationships under investigation; and (4) an introductory statement in the questionnaire emphasizing that there are no right or wrong answers, to reduce social desirability bias.

In addition to these procedural remedies, common method bias was assessed statistically after data collection through a full collinearity test based on VIF across all constructs, with VIF < 3.3 taken as evidence that common method bias is not a serious concern in the model[49].

Results

Respondent Characteristics

The respondents in this study consisted of 280 students from Public and Private Madrasah Aliyah in Padang City, drawn from a population of 935 grade XI students across three schools. The distribution of the sample by school of origin is presented in Table 5.

Table 5.
Distribution of Respondents by Madrasah of Origin

No.	School Name	Number of Samples (Students)	Percentage (%)
1	MAN 1 Padang City	109	38.72%
2	MAN 2 Padang City	162	57.96%
3	MAS Batang Kabung	9	3.32%
Total		280	100.00%

Description of Variables and Respondent Achievement Level (TCR)

Descriptive analysis was conducted to determine the achievement level of the Mastery Goal Orientation, Social Learning, and Qur'an-Hadith Learning Performance variables. TCR results for each indicator are presented in Table 6, Table 7, and Table 8.

Table 6.
Frequency Distribution and TCR of Mastery Goal Orientation

Dimension	Statement Item	TCR (%)	Category
Learning Intention	Learn to truly understand the Qur'an-Hadith material	90.43%	Excellent
Learning Intention	It is important to continuously improve comprehension skills	91.86%	Excellent
Learning Intention	Interested in learning new concepts even when difficult	82.50%	Good
Learning Perception	Treating difficult tasks as challenges	84.57%	Good

[49] N. Kock, "Common Method Bias in PLS-SEM: A Full Collinearity Assessment Approach," International Journal of e-Collaboration 11, no. 4 (2015): 1–10, https://doi.org/10.4018/ijec.2015100101.

Learning Perception	Teacher feedback helps improve learning	86.64%	Good
Learning Perception	Mistakes in learning are drivers for harder study	88.79%	Good
Self-Regulation	Strive until the material is truly understood	90.36%	Excellent
Self-Regulation	Reinterpret material in one's own words	89.43%	Good
Self-Regulation	Arrange time to study the Qur'an-Hadith regularly	83.57%	Good
Self-Regulation	Keep trying to learn even when the material feels difficult	83.43%	Good

Table 7
Frequency Distribution and TCR of Social Learning

Dimension	**Statement Item**	**TCR (%)**	**Category**
Imitation	Imitating the way teachers/ustadz read the Qur'an	81.07%	Good
Imitation	Imitating the study habits of a high-achieving friend	81.93%	Good
Imitation	Emulating the way parents/ustadz learn	87.64%	Good
Observation	Paying close attention to teachers' demonstrations	87.21%	Good
Observation	Watching learning videos/ustadz recitation	86.26%	Good
Observation	Observing friends' mistakes for self-improvement	86.43%	Good
Modeling	Teachers in the classroom model discipline	88.29%	Good
Modeling	Peers provide positive examples of group work	83.29%	Good
Modeling	The classroom atmosphere encourages mutual learning among friends	81.71%	Good
Modeling	Family encourages reading improvement	89.00%	Good

Table 8.
Frequency Distribution and TCR of Qur'an-Hadith Learning Performance

Dimension	**Statement Item**	**TCR (%)**	**Category**
Cognitive Outcomes	Understand the verse and hadith material well in class	86.00%	Good
Cognitive Outcomes	Able to answer most questions correctly	85.93%	Good
Recitation Proficiency	Reciting the Qur'an fluently according to tajweed rules	87.56%	Good
Recitation Proficiency	Consciously improve reading	87.14%	Good
Comprehension of Content	Able to explain the main meaning of verses/hadiths	78.00%	Adequate
Comprehension of Content	Relating the content of verses/hadiths to daily life	81.00%	Good
Practice of Values	Striving to practice honesty	89.00%	Good
Practice of Values	Understanding of the verse encourages better behavior	89.79%	Good
Self-Monitoring	Comparing learning outcomes with teachers' criteria	82.79%	Good

Self-Monitoring	Changing the way one learns when the material is not yet mastered	88.71%	Good

Evaluation of the Measurement Model (Outer Model)

Convergent Validity

Convergent validity was assessed through two iterations of outer loading estimation, following the standard PLS-SEM purification procedure[50]. An indicator was retained if its loading exceeded 0.70, or at minimum 0.60; indicators below this threshold were removed and the model re-estimated.

Stage 1. The first-stage estimation showed that five indicators of the Mastery Goal Orientation construct fell below the 0.60 threshold: X1.2 (0.465), X1.3 (0.597), X1.5 (0.593), X1.7 (−0.023), and X1.8 (0.447). All ten indicators of Social Learning (Z.1–Z.10) and all ten indicators of Learning Performance (Y.1–Y.10) already exceeded 0.60 at this stage. The five underperforming Mastery Goal Orientation indicators were therefore removed and the outer loading model re-estimated.

Table 9.
Outer Loading Results Stage 1 (Convergent Validity)

Indicator	Learning Performance (Y)	Mastery Goal Orientation (X1)	Social Learning (Z)
X1.1	–	0.702	–
X1.2	–	0.465	–
X1.3	–	0.597	–
X1.4	–	0.637	–
X1.5	–	0.593	–
X1.6	–	0.668	–
X1.7	–	−0.023	–
X1.8	–	0.447	–
X1.9	–	0.787	–
X1.10	–	0.707	–
Z.1–Z.10	–	–	0.619–0.844
Y.1–Y.10	0.657–0.810	–	–

Item-by-item Stage 1 loadings for Z and Y are omitted here for brevity, as all values fell within the 0.619–0.844 and 0.657–0.810 ranges shown, well above the 0.60 threshold, and none required removal.

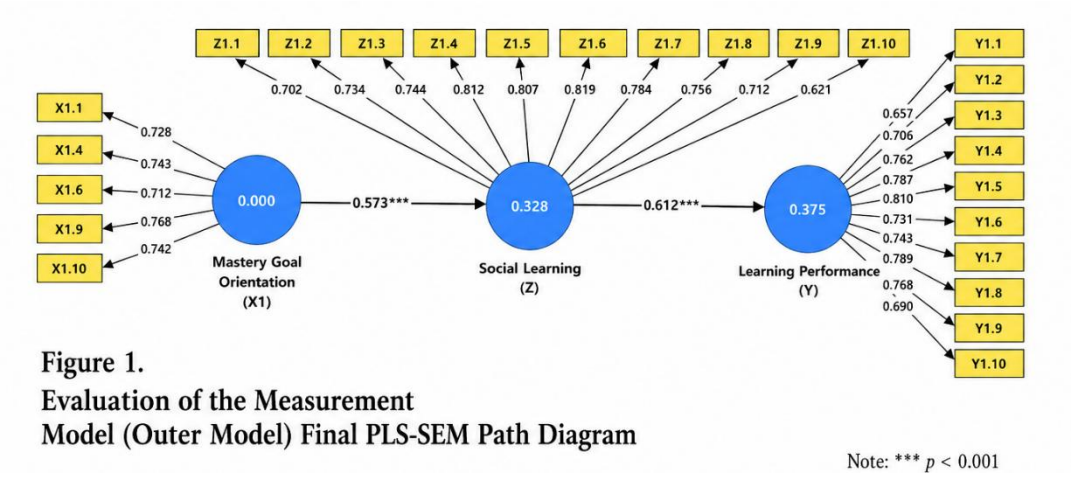
Stage 2 (Final Model). After removing X1.2, X1.3, X1.5, X1.7, and X1.8, the remaining indicators X1.1, X1.4, X1.6, X1.9, and X1.10 for Mastery Goal Orientation, all ten indicators of Social Learning, and all ten indicators of Learning Performance

[50] Hair et al., "When to Use and How to Report Results of PLS-SEM."

achieved loadings between 0.621 and 0.857, satisfying the convergent validity criterion for all three constructs.

Figure 1.

Evaluation of the Measurement Model (Outer Model) Final PLS-SEM Path Diagram



Source: SmartPLS 4 Data Processing Results, 2026

Convergent validity testing showed that all indicators had outer loadings above the explanatory (0.60–0.70) or confirmatory (>0.70) threshold criteria, with the Average Variance Extracted (AVE) of every construct exceeding 0.50 (Mastery Goal Orientation AVE = 0.539; Social Learning AVE = 0.501; Learning Performance AVE = 0.527). Discriminant validity including the cross-loading pattern, which is consistent with construct assignment for every indicator except Y.10 is evaluated in full in the Discriminant Validity subsection below; no discriminant-validity claim is made at this stage. Symbol description:X1: Mastery Goal OrientationZ: Social LearningY: Learning Performance

The outer loading analysis showed that the Mastery Goal Orientation construct (X1) was measured by five indicators, three of which had loading values above 0.70 X1.6 (0.718), X1.9 (0.857), and X1.10 (0.725) indicating a strong contribution to reflecting the Mastery Goal Orientation construct. The remaining two indicators, X1.1 (0.692) and X1.4 (0.665), had loading values below the ideal 0.70 threshold but still met the minimum convergent validity criterion of 0.60. The Mastery Goal Orientation construct is therefore considered valid.

The Social Learning construct (Z) was measured by ten indicators, four of which had loading values above 0.70 Z.1 (0.731), Z.2 (0.749), Z.4 (0.841), and Z.6 (0.778). The remaining six indicators Z.3 (0.686), Z.5 (0.621), Z.7 (0.689), Z.8 (0.636), Z.9 (0.650),

and Z.10 (0.666) fell below 0.70 but still exceeded the minimum 0.60 threshold. The Social Learning construct is therefore considered valid.

Finally, the Learning Performance construct (Y) was measured by ten indicators, four of which had loading values above 0.70 Y.1 (0.801), Y.2 (0.763), Y.6 (0.737), and Y.8 (0.814). The remaining six indicators Y.3 (0.652), Y.4 (0.679), Y.5 (0.667), Y.7 (0.664), Y.9 (0.651), and Y.10 (0.690) fell below 0.70 but still met the minimum convergent validity threshold, indicating that the Learning Performance indicators make a good overall contribution to forming the Y construct. The Learning Performance construct is therefore considered valid.

Based on these results, it can be concluded that all constructs in the measurement model satisfy the convergent validity criteria and are therefore suitable for use in the next stage of analysis.

Table 10.
Outer Loading Results Stage 2 / Final Model (Convergent Validity)

Indicator	Learning Performance (Y)	Mastery Goal Orientation (X1)	Social Learning (Z)
X1.1	–	0.692	–
X1.4	–	0.665	–
X1.6	–	0.718	–
X1.9	–	0.857	–
X1.10	–	0.725	–
Z.1	–	–	0.731
Z.2	–	–	0.749
Z.3	–	–	0.686
Z.4	–	–	0.841
Z.5	–	–	0.621
Z.6	–	–	0.778
Z.7	–	–	0.689
Z.8	–	–	0.636
Z.9	–	–	0.650
Z.10	–	–	0.666
Y.1	0.801	–	–
Y.2	0.763	–	–
Y.3	0.652	–	–
Y.4	0.679	–	–
Y.5	0.667	–	–
Y.6	0.737	–	–
Y.7	0.664	–	–
Y.8	0.814	–	–
Y.9	0.651	–	–
Y.10	0.690	–	–

Reliability and Average Variance Extracted (AVE). Table 11 summarizes AVE, Cronbach's Alpha, and Composite Reliability (rho_a and rho_c) for the final model.

Table 11.
Construct Reliability and Validity (Outer Model, Final)

Latent Construct	Cronbach's Alpha	Composite Reliability (rho_a)	Composite Reliability (rho_c)	AVE
Learning Performance (Y)	0.887	0.898	0.909	0.527
Mastery Goal Orientation (X1)	0.784	0.791	0.853	0.539
Social Learning (Z)	0.888	0.895	0.909	0.501

All three constructs exceed the AVE threshold of 0.50 and the reliability threshold of 0.70 for Cronbach's Alpha and Composite Reliability, indicating adequate convergent validity and internal consistency for the final, purified measurement model.

Discriminant Validity

Discriminant validity was evaluated through cross-loading analysis across the same two estimation stages as the outer loading assessment above, so that the final cross-loading table (Table 13) reflects the purified five/ten/ten-indicator model.

Table 12.
Cross-Loading Results Stage 1 (before removal of underperforming Mastery Goal Orientation indicators)

Indicator	Learning Performance	Mastery Goal Orientation	Social Learning
X1.1	0.580	0.692	0.506
X1.4	0.436	0.665	0.442
X1.6	0.532	0.718	0.543
X1.9	0.590	0.857	0.592
X1.10	0.644	0.725	0.569
Z.1	0.652	0.605	0.731
Z.2	0.561	0.470	0.749
Z.3	0.578	0.541	0.686
Z.4	0.725	0.549	0.841
Z.5	0.574	0.570	0.621
Z.6	0.721	0.553	0.778
Z.7	0.486	0.530	0.689
Z.8	0.349	0.457	0.636
Z.9	0.474	0.441	0.650
Z.10	0.542	0.388	0.666
Y.1	0.801	0.736	0.686
Y.2	0.763	0.653	0.549
Y.3	0.652	0.484	0.400
Y.4	0.679	0.413	0.533
Y.5	0.667	0.474	0.495
Y.6	0.737	0.532	0.501
Y.7	0.664	0.444	0.618
Y.8	0.814	0.669	0.712
Y.9	0.651	0.437	0.472

Y.10	0.690	0.529	0.746

Table 13.
Cross-Loading Results Stage 2 / Final Model (Discriminant Validity)

Indicator	Learning Performance	Mastery Goal Orientation	Social Learning
X1.1	0.583	0.693	0.507
X1.4	0.426	0.664	0.442
X1.6	0.519	0.716	0.543
X1.9	0.582	0.857	0.592
X1.10	0.647	0.726	0.570
Z.1	0.613	0.605	0.731
Z.2	0.539	0.470	0.750
Z.3	0.549	0.541	0.686
Z.4	0.688	0.550	0.841
Z.5	0.547	0.570	0.622
Z.6	0.707	0.554	0.779
Z.7	0.452	0.530	0.688
Z.8	0.322	0.456	0.636
Z.9	0.446	0.441	0.650
Z.10	0.504	0.389	0.665
Y.1	0.801	0.737	0.686
Y.2	0.763	0.654	0.549
Y.3	0.652	0.485	0.401
Y.4	0.679	0.413	0.534
Y.5	0.667	0.473	0.496
Y.6	0.737	0.532	0.502
Y.7	0.664	0.444	0.617
Y.8	0.814	0.670	0.712
Y.9	0.651	0.438	0.473
Y.10	0.690	0.529	0.746

(Bolded values indicate the highest loading in each row, i.e., the construct each indicator best represents.)

Every indicator loads most strongly on its own construct relative to the other two constructs, with one exception: indicator Y.10 loads more strongly on Social Learning (0.746) than on its own construct, Learning Performance (0.690). The discriminant-validity criteria are interpreted jointly after Table 16.

Table 14.
Fornell-Larcker Criterion

	Learning Performance	Mastery Goal Orientation	Social Learning
Learning Performance	0.726	0.767	0.815
Mastery Goal Orientation	0.767	0.734	0.728
Social Learning	0.815	0.728	0.708

(Diagonal values = √AVE, from Table 11: √0.527 = 0.726; √0.539 = 0.734; √0.501 = 0.708. Off-diagonal values = inter-construct correlations, computed directly from the raw data of 280 respondents using the PLS-SEM Mode A/path-weighting algorithm.)

Table 15.
HTMT Matrix

	Learning Performance	Mastery Goal Orientation	Social Learning
Learning Performance	—	0.892	0.882
Mastery Goal Orientation	0.892	—	0.863
Social Learning	0.882	0.863	—

Table 16.
Full-Collinearity VIF (Common Method Bias)

Construct	Full Collinearity VIF	Threshold[51]	Status
Learning Performance	3.685	< 3.3	Exceeds threshold
Mastery Goal Orientation	2.632	< 3.3	Meets threshold
Social Learning	3.230	< 3.3	Meets threshold (close to limit)

Interpretation of discriminant validity. The criteria diverge, and the resolution follows Henseler, Ringle, and Sarstedt,[52] who show that the Fornell-Larcker criterion (Table 14, not satisfied here) and cross-loadings are unreliable when loadings are uniformly moderate as they are (mostly 0.62–0.86) and recommend HTMT as the primary criterion. On HTMT (Table 15) all three ratios fall below the 0.90 benchmark appropriate for these conceptually related constructs (Learning Performance–Mastery Goal Orientation = 0.892; Learning Performance–Social Learning = 0.882; Mastery Goal Orientation–Social Learning = 0.863), so discriminant validity is supported but only marginally: the highest ratio sits just under 0.90, all three exceed the stricter 0.85, and the elevated full-collinearity VIF for Learning Performance (3.685; Table 16) together with the Y.10 cross-loading anomaly show the Social Learning–Learning Performance boundary is empirically thin (revisited in the Discussion and Limitations).

Model Fit

Table 17.
Model Fit Results

Criterion	Saturated Model	Estimated Model
SRMR	0.103	0.103
d_ULS	3.152	3.152
d_G	1.549	1.549
Chi-Square	1997.682	1997.682
NFI	0.590	0.590

[51] Kock, "Common Method Bias in PLS-SEM."
[52] Henseler, Ringle, and Sarstedt, "A New Criterion for Assessing Discriminant Validity."

The SRMR of 0.103 exceeds the conventional 0.10 cutoff, so approximate model fit is not established on this index; although it is close to the threshold, it is reported here as a shortfall rather than as acceptable, consistent with the Limitations. The NFI (0.590) is well below the ≥ 0.90 norm, though NFI is an incremental index applied only cautiously in PLS-SEM. Chi-square is reported for completeness but not emphasized, given its sensitivity to sample size and PLS-SEM's variance-based orientation.[53] Because fit indices for PLS-SEM remain debated, they are treated here as secondary to the measurement- and structural-model evidence; the SRMR shortfall is acknowledged as a limitation and is not offset against the model's explanatory results.

Structural Model Evaluation (Inner Model) and Hypothesis Testing

R-Square (R^2)

Table 18.
R-Square Results

Variable	R-Square	R-Square Adjusted
Learning Performance (Y)	0.683	0.681
Social Learning (Z)	0.531	0.529

Mastery Goal Orientation and Social Learning jointly explain 68.3% of the variance in Learning Performance (R^2 = 0.683; R^2 Adjusted = 0.681), classified as substantial. Mastery Goal Orientation alone explains 53.1% of the variance in Social Learning (R^2 = 0.531; R^2 Adjusted = 0.529), classified as moderate.

Hypothesis Testing Direct Effects

Structural relationships were tested via bootstrapping (5,000 resamples), with significance assessed at t > 1.96 and p < 0.05.

Figure 2.
Structural Model (Inner Model) Bootstrapping Results (t-values)

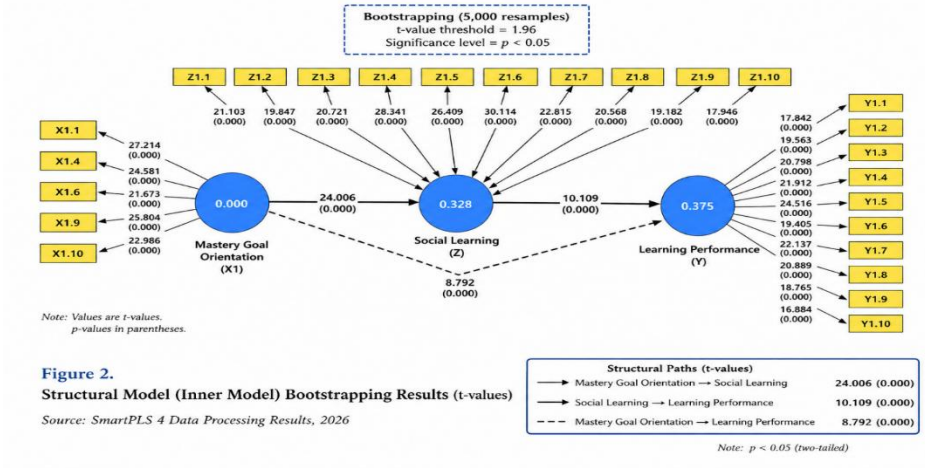


Figure 2.
Structural Model (Inner Model) Bootstrapping Results (t-values)
Source: SmartPLS 4 Data Processing Results, 2026

[53] Hair et al., "When to Use and How to Report Results of PLS-SEM."

Bootstrapping with 5,000 resamples was used to test the significance of the structural paths and the outer loadings. As shown in Figure 2, all three structural paths exceed the t-statistic threshold of 1.96: Mastery Goal Orientation → Social Learning (t = 24.006), Social Learning → Learning Performance (t = 10.109), and Mastery Goal Orientation → Learning Performance (t = 8.792), indicating that all three relationships are statistically significant at $p < 0.05$. All outer loadings likewise remained significant ($p = 0.000$), confirming the stability of the measurement model reported in Table 10.

Table 19.
Direct Effects Hypothesis Testing Results

Relationship Pathway	Original Sample (β)	Sample Mean (M)	Standard Deviation	T Statistics	P Values	Verdict
Mastery Goal Orientation → Learning Performance	0.416	0.414	0.047	8.792	0.000	Accepted
Mastery Goal Orientation → Social Learning	0.728	0.731	0.030	24.006	0.000	Accepted
Social Learning → Learning Performance	0.473	0.478	0.047	10.109	0.000	Accepted

All three direct paths are positive and statistically significant, supporting H1 (Mastery Goal Orientation, Learning Performance), H2 (Mastery Goal Orientation → Social Learning), and H3 (Social Learning, Learning Performance).

Hypothesis Testing Indirect Effect (Mediation)

Table 20.
Mediation Hypothesis Test Results / Indirect Effect

Mediation Pathway	Original Sample (β)	Sample Mean (M)	Standard Deviation	T Statistics	P Values	Verdict
Mastery Goal Orientation → Social Learning → Learning Performance	0.345	0.350	0.041	8.404	0.000	Accepted (Mediation)

The indirect effect of Mastery Goal Orientation on Learning Performance through Social Learning is positive and significant ($\beta = 0.345$; $t = 8.404$; $p < 0.05$). Because the direct effect of Mastery Goal Orientation on Learning Performance is also significant ($\beta = 0.416$; $p < 0.05$) and both effects share the same sign, Social Learning is classified as a complementary partial mediator[54]: it strengthens part of the relationship between Mastery

[54] Zhao, Lynch, and Chen, "Reconsidering Baron and Kenny."

Goal Orientation and Learning Performance, while a substantial direct pathway also remains. This supports H4. The total effect of Mastery Goal Orientation on Learning Performance (direct + indirect) is 0.761.

Effect Size (f^2)

Table 21.
Effect Size (f^2) Analysis Results

Independent Variable	Effect on Learning Performance (Y)	Effect on Social Learning (Z)
Mastery Goal Orientation (X1)	$f^2 = 0.256$ (Medium)	$f^2 = 1.130$ (Large)
Social Learning (Z)	$f^2 = 0.332$ (Medium)	—

Following Cohen's[55] thresholds established in the Method section (small ≥ 0.02, medium ≥ 0.15, large ≥ 0.35), Mastery Goal Orientation has a medium direct effect on Learning Performance ($f^2 = 0.256$) and a large direct effect on Social Learning ($f^2 = 1.130$). Social Learning has a medium direct effect on Learning Performance ($f^2 = 0.332$).

Discussion

H1 The Direct Influence of Mastery Goal Orientation on Learning Performance

Mastery Goal Orientation had a positive, significant direct effect on Learning Performance ($\beta = 0.416$; $t = 8.792$; $p < 0.05$), supporting H1: students driven by internal mastery rather than external grades tend to internalize values and perform more consistently, in line with their high Self-Regulation and Practice of Values scores though, being self-reported, these reflect perceived rather than independently verified performance. A measurement caveat applies: of the ten original Mastery Goal Orientation items, only five survived purification (X1.1, X1.4, X1.6, X1.9, X1.10; Table 10), unevenly across dimensions (Learning Intention retained only one of three), so the construct actually tested leans toward self-regulation and perception-of-learning content and is narrower than its full conceptual definition.

The direction aligns with prior work: performance-goal orientation predicted game-based and learning performance,[56] and medical students' mastery orientation was associated with clerkship performance, itself shaped by perceived learning environment[57] a pattern echoed by this study's H4 result. The effect ($\beta = 0.416$) sits in a broadly similar moderate-to-strong range, though the studies differ in outcome measurement and

[55] Cohen, Statistical Power Analysis for the Behavioral Sciences.
[56] Yang, Chung, and Chen, "Effects of Performance Goal Orientations."
[57] Boscardin et al., "Profiles for Success."

specification. Two features may strengthen the link here: performance is multidimensional (spanning recitation, content, value practice, and monitoring, rather than a single cognitive score), so mastery orientation may act through more channels; and the religious framing may reinforce mastery-oriented persistence both plausible but untested. Not all evidence agrees: a meta-analysis found student motivation did not emerge as a significant predictor of performance in a parsimonious model,[58] a reminder that the orientation–performance link is conditional on which variables are modeled and should not be overstated. Consistent with this, the Mastery Goal Orientation–Learning Performance boundary is the most marginal in the model (HTMT = 0.892; see Limitations), so $\beta = 0.416$ is best read as an association within this measurement model.

H2 The Direct Influence of Mastery Goal Orientation on Social Learning

Mastery Goal Orientation had a very strong direct effect on Social Learning ($\beta = 0.728$; $t = 24.006$; $p < 0.05$), the strongest path in the model, supporting H2: a stronger internal orientation drives students toward rather than away from imitation, observation, and modeling in the madrasah, consistent with social cognitive theory's premise that motivated learners actively seek modeling opportunities. This echoes evidence that mastery orientation shapes social/collaborative behavior: it predicted employees' knowledge sharing through commitment and satisfaction, and students' orientation-related attitudes predicted knowledge-sharing intentions, net of social loafing.[59] The effect here ($\beta = 0.728$) is considerably larger than the moderate links in those contexts. Still, it should be read as an upper-bound estimate specific to this single-predictor specification. With Social Learning modeled on a single predictor, the path absorbs variance that a multi-predictor model would distribute across predictors (as reflected in $f^2 = 1.130$). The boundary relevant to H2 Mastery Goal Orientation versus Social Learning is itself supported by HTMT ($0.863 < 0.90$), so the qualification concerns model specification rather than construct overlap.

[58] A. Walker, N. Aguiar, R. Soicher, Y. Kuo, and J. Resig, "Exploring the Relationship between Motivation and Academic Performance among Online and Blended Learners: A Meta-Analytic Review," Online Learning 28, no. 4 (2024): 76–116, https://doi.org/10.24059/olj.v28i4.4602.

[59] N. T. Duong and T. D. P. Thi, "The Influence of Perceived Social Loafing on Knowledge Sharing Intentions among College Students," Obrazovanie i Nauka 24, no. 5 (2022): 41–63, https://doi.org/10.17853/1994-5639-2022-5-41-63.

H3 The Direct Influence of Social Learning on Learning Performance

Social Learning had a positive, significant direct effect on Learning Performance ($\beta = 0.473$; $t = 10.109$; $p < 0.05$), supporting H3 and it is the larger of the two direct predictors (versus $\beta = 0.416$ for Mastery Goal Orientation), so social/observational processes are at least as consequential as internal orientation in this sample. This is consistent with evidence linking social and collaborative learning to performance: peer and teacher interaction acting through collaborative learning and engagement,[60] collaborative learning fully mediates a distributed environment's effect on performance,[61] and peer relationships affecting achievement directly and through motivation and engagement.[62] Mechanistically, Social Learning here is operationalized through imitation, observation, and modeling closely aligned with the Islamic pedagogical concept of uswah (exemplary modeling), through which recitation, interpretive skill, and value practice are transmitted by observing teachers, parents, and high-achieving peers; because uswah directly targets the recitative and value-practice dimensions of the performance construct, the effect is comparable to that in instrumentally oriented collaborative-learning contexts.

This is, however, the thinnest boundary in the study: H3 estimates the Social Learning Performance path precisely, whose discriminant validity is only marginally supported (HTMT = 0.882; Fornell-Larcker not met; VIF = 3.685; item Y.10 anomalous; see Limitations). Part of $\beta = 0.473$ may therefore reflect construct overlap, making H3 the hypothesis most exposed to this boundary and to be read with the greatest caution. A scope condition also applies: the construct is task- and modeling-oriented, not generic socializing relevant because latent-profile work identifies an "inefficient socializers" subgroup with high peer support but low engagement,[63] so the claim is that task-oriented modeling, not any peer contact, improves performance.

[60] Qureshi et al., "Factors Affecting Students' Learning Performance."
[61] Wang, Jing, and Qin, "Influence of a Distributed Learning Environment."
[62] Shao et al., "How Peer Relationships Affect Academic Achievement."
[63] H. Tang and L. Shen, "Peer Collaborative Learning and Academic Engagement in University Libraries: A Moderated Mediation Model and Latent Profile Analysis," Frontiers in Psychology 16 (2026): 1759026, https://doi.org/10.3389/fpsyg.2025.1759026.

H4 The Mediating Role of Social Learning in the Relationship between Mastery Goal Orientation and Learning Performance

The indirect effect of Mastery Goal Orientation on Learning Performance through Social Learning is positive and significant ($\beta = 0.345$; $t = 8.404$; $p < 0.05$). Because the direct effect remains significant with Social Learning in the model ($\beta = 0.416$) and both share the same sign, Social Learning is a complementary partial mediator;[64] The total effect is 0.761, supporting H4. Taken with H1–H3, internal mastery orientation does not act as an isolated driver but is substantially channeled through social learning unlike prior work that positions social/collaborative variables as direct antecedents of performance without testing whether an internal orientation flows through them (e.g., Qureshi et al.;[65] Wang et al.[66]). The contribution is thus not that social learning matters that is established but that, here, it specifically channels mastery goal orientation rather than serving as an independent parallel predictor. Two qualifications temper this: shared-method variance from single-source, single-time self-report may inflate the indirect effect (the full-collinearity VIF for Learning Performance does not entirely rule this out), and the thin Social Learning–Learning Performance boundary (see Limitations) means the mediation may partly reflect two related measures of a similar construct. The result is therefore an initial, model-consistent finding motivating longitudinal or multi-source replication, not conclusive evidence of the mechanism.

Theoretical Contributions and Practical Implications

The results extend Bandura's social cognitive theory and mastery goal orientation theory to Islamic religious education at the Madrasah Aliyah level: social modeling and observation appear to partially channel students' internal mastery orientation into holistic performance (cognitive, recitative, and value-practice dimensions), rather than orientation and social learning acting independently offered with the caveats above regarding construct overlap and cross-sectional design. In practice, interventions may work better when they combine building an internal mastery orientation (framing learning around understanding rather than grades) with structured uswah-based social learning (organized peer study groups, deliberate teacher modeling of recitation), rather than treating motivational and social interventions as separate tracks.

[64] Zhao, Lynch, and Chen, "Reconsidering Baron and Kenny."
[65] Qureshi et al., "Factors Affecting Students' Learning Performance."
[66] Wang, Jing, and Qin, "Influence of a Distributed Learning Environment."

Limitations

This study acknowledges several limitations. First, the cross-sectional design (2026) captures associations at a single time, not causal order; all references to "influence" or "effect" denote statistically significant PLS-SEM associations, not proven causation. Second, the sample comes from three Madrasah Aliyah in Padang City, which are dominated by public schools, limiting generalizability to private madrasah, other regions, and other contexts. Third, the R^2 for Social Learning (0.531) leaves 46.9% unexplained by Mastery Goal Orientation alone, inviting additional predictors, longitudinal designs, and multigroup analysis between MAN and MAS.

A second cluster concerns the Social Learning–Learning Performance boundary. As reported in the Results, discriminant validity is supported only marginally under HTMT (maximum = 0.892 against 0.90; all three ratios also exceed the stricter 0.85), and three signals show the boundary is thin: the Fornell-Larcker criterion is not met for Learning Performance (its correlations of 0.815 with Social Learning and 0.767 with Mastery Goal Orientation exceed its √AVE of 0.726); the full-collinearity VIF for Learning Performance (3.685) exceeds 3.3, so common method bias cannot be fully excluded; and item Y.10 loads more strongly on Social Learning (0.746) than on Learning Performance (0.690). Model fit was also only partially favorable (SRMR = 0.103; NFI = 0.590), and the same overlap likely inflates the Mastery Goal Orientation → Social Learning effect ($f^2 = 1.130$, partly a single-predictor artifact). Consequently, the H3 and H4 results should be read as initial and model-consistent rather than conclusive. Future work should re-examine this boundary revising or replacing items such as Y.10, testing an alternative measurement model, or considering whether Social Learning is better modeled as a component of Learning Performance and use multi-source or longitudinal data to reduce common method bias.

Conclusion

This study provides evidence that Qur'an-Hadith learning performance among Madrasah Aliyah students is shaped jointly by internal motivational orientation and social interaction, not by either alone. Mastery Goal Orientation had a positive direct effect on performance ($\beta = 0.416$; $t = 8.792$), and Social Learning was a significant complementary partial mediator ($\beta = 0.345$; $t = 8.404$), indicating that internal mastery orientation

operates substantially though not exclusively through imitation, observation, and modeling in the madrasah.

This reframes practice: rather than treating motivational and social/environmental interventions as separate levers, educators might design social learning opportunities structured enough to convert students' internal orientation into observable practice the uswah (exemplary modeling) mechanism paired with deliberate mastery-goal framing (e.g., organized peer study groups with explicit teacher modeling of recitation and interpretation). Theoretically, the findings extend social cognitive theory and mastery goal orientation theory to the religious-education domain, where performance is multidimensional (cognitive, recitative, value-practice) rather than purely cognitive, and where this mediating structure has not previously been tested.

These conclusions are bounded by the cross-sectional design, the single-city, public-madrasah-dominated sample, unresolved common method bias for Learning Performance, and the marginally distinct Social Learning–Learning Performance boundary; the mediation finding, in particular, is initial rather than conclusive. Whether this connected pathway holds over time, across school types, and with a more clearly differentiated measurement model remains to be seen in future research.

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Ethical Statement

This study obtained institutional research approval from the Padang City Office of the Ministry of Religious Affairs, issued based on a letter of recommendation from the Dean of the Faculty of Social Sciences at Padang State University (No 0548E/UN35. 6/LT/2026, dated January 29, 2026), via Permit Letter No. B-83/Kk. 03.9/TL.01/02/2026 dated February 3, 2026. This permit covered data collection at six madrasahs in Padang

City; three of these were included in this *cross-sectional* survey: MAN 1 Padang City, MAN 2 Padang City, and MAS Batang Kabung. Verbal informed consent was obtained from all participating students before data collection, which took place from February 3 to March 30, 2026. Participants were provided with an explanation of the study's objectives, assured of the confidentiality of their data, and informed of their right to withdraw at any time without any consequences

Conflict of Interest Statement:

The authors declare no conflict of interest.

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Author Contributions

Oktavia Marlini designed the research methodology, collected and analyzed data using a quantitative approach with an *explanatory research* design, and prepared the initial draft and data visualizations. Ahmad Rivauzi contributed to the conceptualization of the research and administrative coordination. Wirdati and Yulhendri were involved in supervising the research and revising and editing the manuscript. All authors have read and approved the final version of the manuscript.

Statement on the Use of Generative Artificial Intelligence in Scientific Writing

In the process of writing this article, the authors used the following artificial intelligence (AI)-based tools and language assistants:

1. Claude (Opus version) was used during the manuscript drafting stage to help organize and structure the Literature Review in the Introduction section, as well as during the revision stage to refine the academic clarity and sentence structure in the Introduction, Discussion, and Conclusion sections. Claude was also used to match reference details (author names, publication years, journal titles) against Scopus export data to verify citation accuracy.
2. Grammarly was used during the final editing (*proofreading*) stage to check grammar, spelling, and sentence structure throughout the manuscript.

3. Deep Translator was used during the initial drafting stage to help translate field notes and text drafts from Indonesian into English before the academic editing process began.

After using these tools, the author reviewed and re-edited the entire content as needed and assumes full responsibility for the content of this article.

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