



The Influence of Learning Interest and Discipline on Academic Achievement: The Mediating Role of Motivation

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Abstract

This study aims to analyze the influence of learning interest and learning discipline on student learning outcomes, as well as to examine the role of learning motivation as a mediating variable at a public vocational high school in Indonesia. The main issue underlying this study is the low level of student motivation and discipline, as evidenced by passive attitudes, low self-confidence, and a lack of readiness to participate in learning. The method used was quantitative research with data collection via closed-ended questionnaires, observation, and report card documentation. The sample consisted of 128 students, selected using proportional random sampling. Data analysis was conducted using Structural Equation Modeling–Partial Least Squares (SEM-PLS 4). The results of the study indicate that interest in learning and discipline in learning have a significant effect on learning outcomes, both directly and indirectly through learning motivation as a mediating variable. These findings support Vroom’s motivation theory and Bloom’s concept of learning outcomes, while also demonstrating that motivation serves as a crucial link between attitude, regulatory behavior, and academic achievement. The findings of this study emphasize that improving students’ interest and discipline in learning requires contextual learning experiences, in line with the principles of human resource development. Teachers serve as learning managers who employ performance management approaches to enhance students’ motivation, engagement, and learning behaviors.

INTRODUCTION

Competent and adaptable human resources are an urgent necessity in facing the challenges of the 21st century. Modern education is no longer understood as merely a process of knowledge transfer, but as a systematic effort to develop students who are creative, critical, and highly competitive in this era of rapidly advancing information technology (Handayani & Subakti, 2020). Within this framework, the success of education is reflected in student learning outcomes as an indicator of instructional effectiveness (Sojanah & Kencana, 2021). Law No. 20 of 2003 on the National Education System further emphasizes that education is a conscious and planned effort to develop the full

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potential of students so that they become individuals of character, intelligence, and skill (Prasetyo & Rosy, 2020).

However, the achievement of learning outcomes does not occur in a linear fashion and is influenced by various internal and external factors (Singal et al., 2025). Internal factors include interest, motivation, and study discipline, which play a crucial role in shaping students' psychological readiness. Interest in learning, for example, is understood as a strong internal drive within students to actively engage in the learning process (Arif et al., 2025; Rio & Rodriguez, 2022; Saputri et al., 2021). Students with high interest tend to be more enthusiastic, focused, and have a desire to understand the material in depth. On the other hand, study discipline relates to students' ability to self-regulate, follow rules, and manage time effectively (Rahmadi et al., 2021). Previous research (Aningsih et al., 2025; Basri et al., 2021; Hartawan et al., 2022) indicates that both of these aspects contribute to academic success.

However, conditions on the ground do not always align with theory. Findings from observations at State Vocational High School 2 Ende, East Nusa Tenggara, Indonesia, indicate that some students still exhibit low levels of interest and discipline in their studies. This is evident in habits such as procrastinating on assignments, a lack of focus during lessons, and studying only right before exams. This phenomenon aligns with the implementation of the Merdeka Curriculum (Kemdikbud, 2022), which provides ample room for remedial and learning improvements, leading some students to feel they have a "safety net" to advance to the next grade without maximizing their study efforts. This situation indicates that the correlation between interest, discipline, and learning outcomes is not always strong in real-world contexts.

Interestingly, a number of previous studies have also yielded inconsistent findings. Some studies demonstrate a positive influence of interest and study discipline on learning outcomes (Harefa, 2023; Hartawan et al., 2022; Silitonga, 2024), while other studies found no significant relationship (Safna & Wulandari, 2022). This inconsistency highlights a research gap that requires further investigation. One limitation of previous studies is the lack of attention to other psychological variables that may mediate this relationship, particularly learning motivation.

Therefore, this study is urgently needed to analyze the role of learning motivation as a mediating variable between interest, discipline, and student learning outcomes in the context of the Merdeka Curriculum at a public vocational high school in Indonesia. This approach offers a new perspective for understanding the psychological mechanisms that may explain the discrepancies found in previous studies. Furthermore, this study is expected to make a theoretical contribution by strengthening the understanding of the relationship model among psychological variables in education, while also providing practical insights for teachers and schools in designing learning strategies that can enhance students' motivation and autonomy in learning. Thus, this study is not only relevant to the current context but also crucial for the future development of educational science and learning practices.

METHODS

This study employs a quantitative approach using a survey design, as it aims to test and analyze the relationship between the variables of interest in learning, study discipline, motivation to learn, and student learning outcomes through the measurement of numerical data (Aryasutha et al., 2025; Boey et al., 2023; Engkizar et al., 2025; 2018; Jaafar et al., 2025; Nahampun et al., 2024; Syafril et al., 2021; Yu, 2024; Yusnita et al., 2018). A quantitative approach is

appropriate when a study seeks to test hypotheses and objectively explain relationships between variables using standardized instruments. In line with this view, survey research allows researchers to collect large amounts of data using instruments such as questionnaires, thereby enabling them to describe trends and patterns of relationships among variables within a population.

The population in this study is State Vocational High School 2 Ende in East Nusa Tenggara Province, Indonesia, for the 2024/2025 academic year, comprising 706 students distributed across 12 vocational concentrations and 22 learning groups. The selection of 11th-grade students was based on the consideration that students at this level have passed the adaptation period in 10th grade, have relatively stable behavior and learning patterns, and have not yet faced the pressure of graduation as 12th-grade students do. Thus, they are considered the most representative group for assessing the relationship between learning interest, discipline, motivation, and learning outcomes.

Because the population size was relatively large, the researcher selected a sample of students using proportional random sampling, a method that involves randomly selecting students while taking into account the proportion of students in each department. Based on a set margin of error of 8%, the sample size for this study was 128 students, who were then distributed proportionally across each department to ensure all groups were fairly represented. Data collection was conducted using three main techniques: closed-ended questionnaires, observation, and documentation. The questionnaire was used to obtain data on students' interest in learning, study discipline, motivation to learn, and perceptions of learning outcomes. This instrument was designed based on theoretical indicators and used a five-point Likert scale ranging from Strongly Agree to Strongly Disagree. Through this questionnaire, the researcher obtained quantitative data that could be analyzed to identify patterns of relationships among variables.

Observations were conducted to supplement the quantitative data by directly observing student behavior in the classroom, particularly regarding discipline such as punctuality, adherence to classroom rules, and participation during the learning process. This observational data provides a factual picture that complements the perceptual data from the questionnaire. Additionally, report card grades were used as an objective data source for the learning outcomes variable. The grades obtained from these official school documents serve as indicators of students' academic achievement that are not influenced by subjective perceptions. The instruments in this study include questionnaires for the variables of interest, discipline, and learning motivation, as well as report card grades for learning outcomes. Before use, the instruments were tested for validity and reliability to ensure they were suitable for measuring the research variables.

Data analysis was conducted using Partial Least Squares-based Structural Equation Modeling (SEM-PLS) with SmartPLS 4 software. This method was chosen because it is capable of analyzing complex relationship models, including direct and indirect effects through mediating variables, and does not require a large sample size or a perfectly normal data distribution. The analysis was conducted in two main stages: evaluation of the measurement model to assess construct validity and reliability, and evaluation of the structural model to test hypotheses regarding relationships between variables, R-square values, and the mediating effect of motivation.

Overall, this methodology is designed to produce accurate, systematic, and scientifically accountable findings regarding the influence of interest and study discipline on student learning outcomes, both directly and through

learning motivation as a mediating variable. This approach also provides a comprehensive picture of the psychological conditions, behavior, and academic achievement of students at a vocational high school in Indonesia within the context of the implementation of the Merdeka Curriculum.

Research Instruments

Research instruments are used to obtain accurate and consistent data in accordance with the analytical requirements for each research variable. The following table presents the results of the construct reliability test.

Table 1. Results of the construct reliability test

	Cronbach's Alpha	Rho_A	Rho_C	Remark
Discipline	0.941	0.943	0.949	Reliable
Learning Outcome	0.947	0.949	0.954	Reliable
Interest	0.94	0.943	0.949	Reliable
Motivation	0.953	0.955	0.958	Reliable

All variables in this research model Interest in Learning, Discipline in Learning, Motivation to Learn, and Learning Outcomes have met the criteria for reliability (≥ 0.70) and convergent validity (≥ 0.50). Therefore, the instruments used can be considered valid and reliable for use in further analysis.

To avoid overlapping meanings among constructs, discriminant validity ensures that each latent construct is empirically distinct. After convergent validity and reliability were established, an assessment was conducted using the HTMT (Heterotrait-Monotrait Ratio), which is considered the most accurate by Hair et al. (2021); (2022). An HTMT value below 0.85 indicates good construct separation, while a value above 0.90 indicates that discriminant validity has not been achieved.

Table 2. HTMT Test Results

	Discipline	Learning Outcome	Interest	Motivation
Discipline				
Learning Outcome	0.785			
Interest	0.649	0.788		
Motivation	0.706	0.790	0.770	

These results indicate that each construct can be clearly distinguished from the others. Therefore, these constructs meet the criteria for discriminant validity and are suitable for use in further analysis.

In addition, the Fornell-Larcker criterion was used to compare the square root of AVE with the interconstruct correlations. Discriminant validity is met if the $\sqrt{\text{AVE}}$ of a construct is greater than its correlation with other constructs, indicating that the construct is better able to explain the variance of its own indicators.

Table 3. Results of the Fornell-Larcker Test

	Discipline	Learning Outcome	Interest	Motivation
Discipline	0.794			
Learning Outcome	0.751	0.783		
Interest	0.621	0.752	0.805	
Motivation	0.676	0.764	0.738	0.777

These results indicate that the criteria for discriminant validity established by Fornell and Larcker have been met by each construct. This means that each construct is capable of clearly representing its concept without involving other constructs.

RESULT AND DISCUSSION

One of Indonesia's public vocational high schools, this B-accredited vocational education institution has been operated by the central government since 1978. Its curriculum emphasizes technical skills, practical training, and character development, making a passion for learning, motivation, and discipline crucial for academic success. Additionally, the school and parents can communicate more easily through information technology. This school has 2,356 students and consists of 12 skill concentrations and 5 fields of expertise. It serves as an ideal setting for research on the relationship between interest, discipline, and learning outcomes, with motivation acting as a mediating factor. Students' motivational dynamics significantly influence learning outcomes due to the vocational environment's demands for both behavioral and cognitive engagement.

In this study, proportional random sampling was used to select 128 students from a population of 706, ensuring that each vocational concentration was proportionally represented. Most of the respondents were male (103 people, or 80.5%), while 25 were female (19.5%). Female students are still involved in technical programs, as indicated by this composition.

By age, the majority of respondents were 17 years old (75%), followed by 18-year-olds (17.2%), 16-year-olds (7%), and 19-year-olds (0.8%). The largest number of participants came from 12 fields of study, with [field] having the highest number of participants (10.2%). The fields with the fewest participants were TESHA and Geomatics. This distribution provides a fairly accurate picture of the students' circumstances.

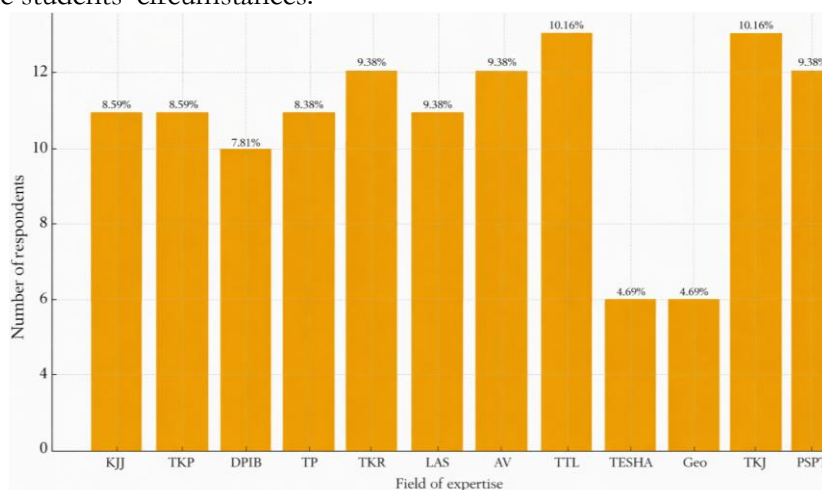


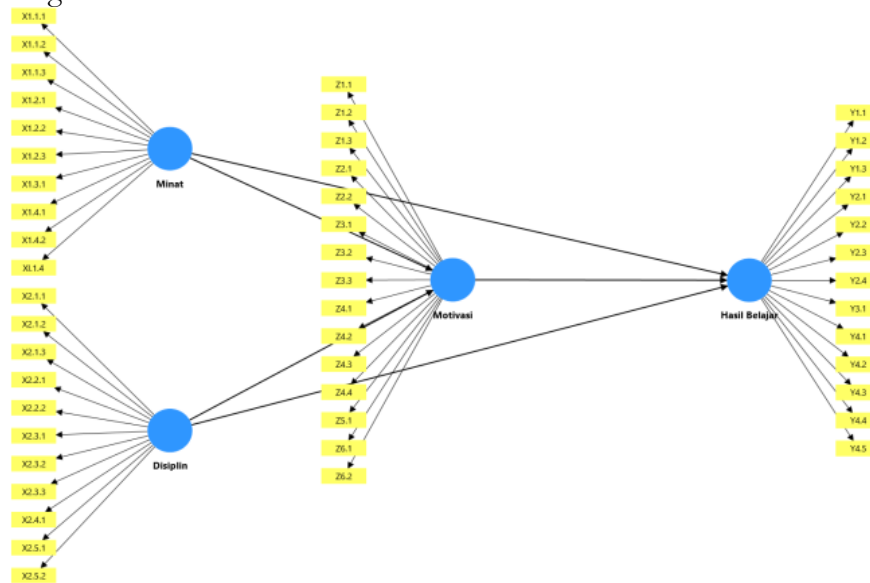
Fig 1. Bar Chart of Respondent Distribution Based on Area of Expertise

The final analysis dataset consisted of 128 respondents, including 50 fully valid and complete responses, based on the screening and preparation process. No data were deleted or corrected because the initial data met the eligibility criteria. Therefore, this dataset could be used directly in the PLS-SEM analysis stage. This stage includes an in-model evaluation to assess the relationships among the study's latent variables and an out-of-model evaluation to assess the validity and reliability of the indicators.

PLS-SEM analysis can be directly applied to the dataset comprising 128 respondents and 50 statements that passed the eligibility test. The initial stage of the analysis involves examining the measurement model and the structural

model. To ensure that the indicators can accurately represent the latent constructs, the measurement model is tested through validity and reliability tests. According to (Hair & Alamer, 2022; Hair et al., 2021), the model specification process includes identifying constructs, selecting indicators, determining the type of measurement model, and determining the direction of relationships between variables. These are the initial steps that will be used to create an analytical framework consistent with the theory and research objectives.

In this study, the model used focuses on the relationship between interest, discipline, and learning outcomes, with motivation serving as a mediator. The model structure illustrates causal relationships involving both direct and indirect pathways. Therefore, this model is considered a complex structural model. In relation to the hypotheses, a path diagram was created to show the positions of the internal, external, and mediator constructs as well as the direction of influence between variables. Before beginning the PLS-SEM statistical analysis, this visualization provides a better picture of how each construct influences learning outcomes.



**Fig 2. Output of smart-PLS version 4 Empirical Model
Evaluation of the Measurement Model (Outer Model)**

Before proceeding to structural analysis, an evaluation of the outer model ensures that the indicators truly represent the latent constructs. Convergent validity, construct reliability, and discriminant validity are components of this evaluation. If these three elements are met, the model can be considered valid, and the results of subsequent analyses will be more reliable. Each indicator for the constructs Interest, Discipline, Learning Outcomes, and Motivation has a loading above 0.70, thus meeting the recommended criteria for convergent validity, which is assessed through external loadings and AVE (Average Variance Extracted). All indicators function well and do not need to be eliminated due to their stable range of values. Consequently, reliability analyses such as CR and AVE can be used to ensure internal consistency and the overall validity of the constructs.

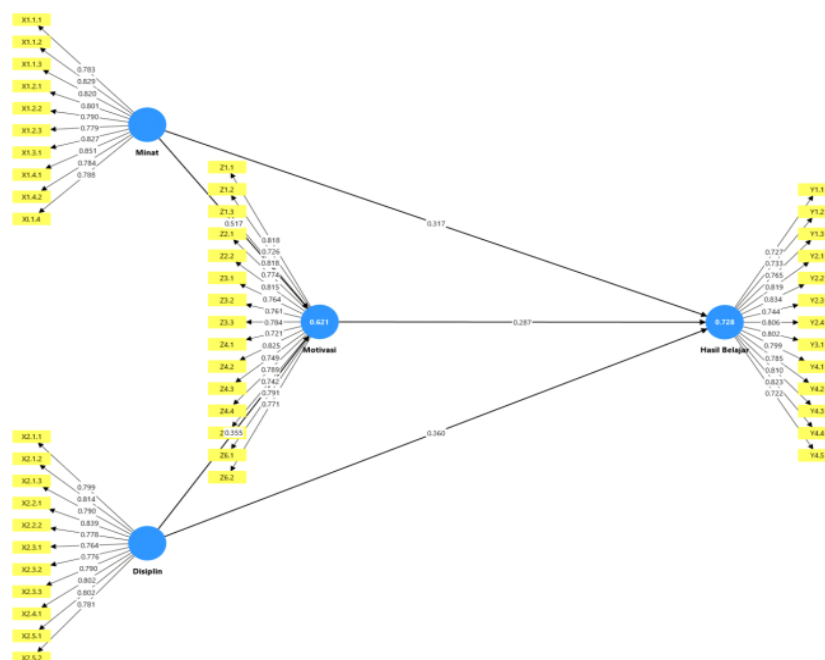


Fig 3. Output of smart-PLS version 4; Outer Loading

In PLS-SEM, AVE is used to assess convergent validity. An AVE value exceeding 0.50 indicates that the construct indicator explains more than half of its variance, meaning that the construct has adequate convergent validity.

Table 4. AVE Test Results

Variable	AVE
Learning Discipline (X2)	0.941
Learning Outcome (Y)	0.947
Learning Interest (X1)	0.940
Learning Motivation (Z)	0.953

Construct reliability assesses the consistency of indicators in measuring a latent construct. For PLS-SEM, composite reliability and Cronbach's alpha are used; a Cronbach's alpha above 0.70 is considered an indication of good consistency. For measurement models to produce valid results, they must have strong reliability.

Structural Model Evaluation (Inner Model)

Once the measurement model has been validated and found to be reliable, the analysis proceeds to evaluate the structural model. The purpose of this stage is to examine the strength and direction of the causal relationships among the latent constructs proposed by the hypotheses. According to [Hair et al., \(2021\)](#), the R² and Q² values, path coefficients and their significance, and the f² effect size are used for evaluation. In SmartPLS 4, the bootstrapping procedure is typically used to conduct the tests.

Multicollinearity Test

To ensure that the relationships among constructs do not interfere with one another, multicollinearity was tested in the PLS-SEM. [Hair & Alamer, \(2022\)](#); [Hair et al., \(2021\)](#) recommend using the VIF (Variance Inflation Factor), with an ideal value above 3.3 and not exceeding 5.0. Higher VIF values indicate the possibility of multicollinearity, which can reduce the accuracy of model estimates

Table 5. Results of the Inner Model Multicollinearity Test

	VIF
Discipline → Learning Outcome	1.959

	VIF
Discipline → Motivation	1.627
Interest → Learning Outcome	2.333
Interest → Motivation	1.627

According to [Hair & Alamer, \(2022\)](#); [Hair et al., \(2021\)](#), multicollinearity among constructs is not an issue in reflective models because high correlations among indicators are to be expected. The results of the above study indicate that the correlations among constructs are ≤ 0.50 , so this model remains valid for analyzing the causal relationships among latent variables.

R-Square Test (R^2)

The coefficient of determination (R^2) is used to measure how well exogenous variables can explain the variation in endogenous constructs. A higher R^2 value indicates a better structural model for prediction ([Hair & Alamer, 2022](#); [Hair et al., 2021](#)).

Table 6. R-Square Test

Variable	R^2	R^2 adjusted
Learning Outcome	0,728	0,721
Motivation	0,621	0,615

The R^2 value indicates that the variables of interest, discipline, and learning motivation account for approximately 72.8% of the variation in learning outcomes, and the variables of interest and discipline account for 62.1% of the variation in motivation, while the remainder is influenced by other factors outside the model. Based on the criteria of [Hair et al., \(2021\)](#), both values fall into the strong category, so the model can be considered to have good and stable explanatory power.

Path Coefficient and Significance Tests

The strength of the relationships between latent variables was assessed using PLS-SEM significance tests with bootstrapping. This method produced estimates of path coefficients, t-values, p-values, and standard errors based on approximately 5,000 samples. A relationship is considered significant if the t-value > 1.96 and the p-value < 0.05 . This indicates that the hypothesis is accepted and valid for interpretation within the model

Table 7. Path Test

Relationship Path	Original Sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)
Discipline → Learning Outcome	0.360	0.362	0.079	4.543
Discipline → Motivation	0.355	0.359	0.106	3.357
Interest → Learning Outcome	0.317	0.341	0.111	2.863
Interest → Motivation	0.517	0.517	0.108	4.799
Motivation → Learning Outcome	0.287	0.261	0.107	2.692

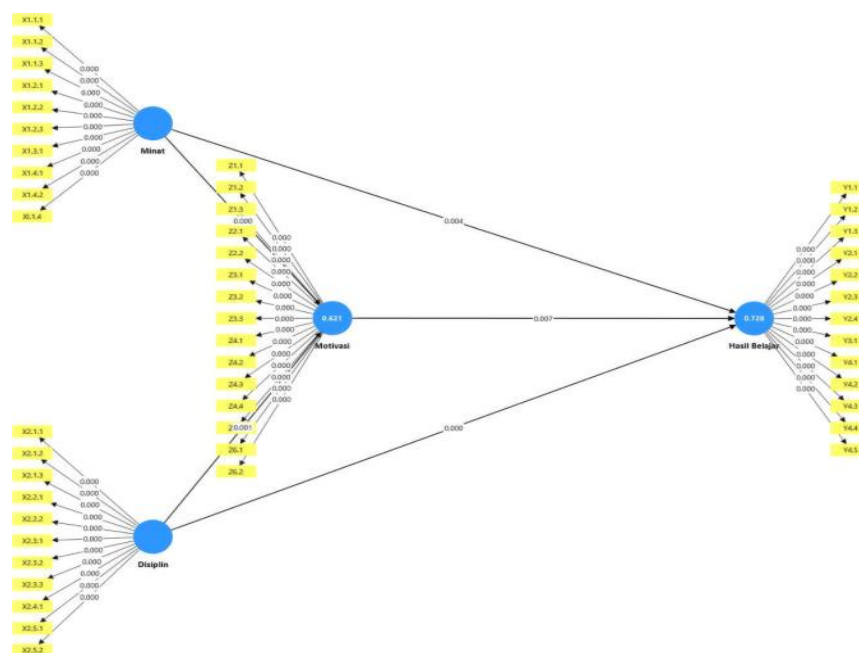


Fig 4. Output of smart-PLS version 4 Path Coefficients Test

The results of the analysis indicate that interest and discipline have a positive and significant impact on learning outcomes (accepted results). The coefficient of contribution for interest is 0.317, while the coefficient for discipline is 0.360. Since both meet the criteria for statistical significance, it can be concluded that students with good study habits and high levels of interest tend to achieve better learning outcomes. Furthermore, the test results indicate that interest and discipline have a significant influence on learning motivation; interest has a coefficient of 0.517, while discipline has a coefficient of 0.355. These two findings suggest that when students demonstrate interest in the subject and maintain consistent study habits, their motivation increases. Furthermore, with a coefficient of 0.287, motivation has a significant impact on learning outcomes. Thus, this research model confirms that increased interest and discipline will have direct and indirect effects on learning outcomes through the reinforcement of the influence of interest and discipline on learning achievement.

Effect Size Test (Effect Size, f^2)

After assessing the significance of path coefficients, the next step in structural equation modeling is to determine the effect size. When the exogenous construct is removed from the model, this analysis reveals the role of the exogenous construct in explaining the variation in the endogenous construct. This step is crucial because the strength of a variable's influence in practical applications cannot be measured by significance alone.

According to Hair et al. (2021), f^2 is divided into four categories: greater than 0.35 indicates a large effect; 0.15–0.35 indicates a moderate effect; 0.02–0.15 indicates a small effect; and less than 0.02 indicates a non-significant effect. These values are obtained by comparing the R^2 of the full model with the R^2 after the exogenous construct is removed. The results of the path coefficient test are important for the analysis because they show the contribution of each construct to the change in R^2 in the model.

Table 8. Effect Size Test Results (f^2)

	f^2
Discipline → Learning Outcome	0.243
Discipline → Motivation	0.204

	f^2
Interest → Learning Outcome	0.158
Interest → Motivation	0.434
Motivation → Learning Outcome	0.115

The results of the analysis indicate that learning interest has a positive and significant effect on student learning outcomes. With a coefficient of 0.317, a T-statistic of 2.863, a p-value of 0.004, and an F2 effect of 0.158 (moderate), learning interest has a positive and significant effect. These results align with those of (Harefa, 2023; Hartawan et al., 2022), who state that student interest is positively correlated with the quality of their learning outcomes. Thus, interest is an important component in the learning process.

With a coefficient of 0.360, a T-statistic of 4.543, a p-value of 0.000, and an F2 effect of 0.243 (moderate), academic discipline also has a positive impact on learning outcomes. This supports the findings of Hartawan et al., (2022), which indicate that students with high discipline achieve better learning outcomes, underscoring the importance of fostering a disciplined character in education.

In addition to direct effects, discipline and interest enhance student motivation. This, in turn, improves learning outcomes. Motivation itself has a positive effect on learning outcomes (f^2 0.115). The effect of interest on motivation is large (f^2 0.434), while the effect of discipline on motivation is moderate (f^2 0.204). Overall, interest, discipline, and motivation work together to improve students' academic performance.

Predictive Validity Test (Q^2)

The strength of the relationship between latent constructs and the model's ability to predict endogenous variables are crucial for the PLS-SEM method. The $Q^2_{predict}$, RMSE (Root Mean Square Error), and MAE (Mean Absolute Error) indicators are used to test predictive relevance. $Q^2_{predict}$ indicates the model's effectiveness in making predictions, while RMSE and MAE measure the level of prediction error. According to Hair et al., (2017), (2021), a Q^2 prediction is considered predictively relevant if it is greater than 0, with the following interpretation of prediction levels: <0 is irrelevant, 0.02–0.15 is low, 0.15–0.35 is moderate, and >0.35 is high. However, there are no standard thresholds for RMSE and MAE, but smaller values indicate better prediction quality. Therefore, the combination of these three indicators is important for assessing the predictive performance of the PLS-SEM model.

Table 9. Results of the Predictive Relevance Test ($Q^2_{predict}$)

	$Q^2_{predict}$	RMSE	MAE
Learning Outcome	0.657	0.595	0.416
Motivation	0.583	0.656	0.489

All endogenous variables in the model demonstrate good predictive ability, with Q^2 values above 0. The Motivation construct has a Q^2 value of 0.583, which is considered highly predictive, and although there is some prediction error, the RMSE (0.656) and MAE (0.489) indicate fairly accurate estimates.

Overall, the model demonstrates adequate predictive quality because the Learning Outcomes construct has a Q^2 value of 0.657, indicating that it falls into the high-predictive category. The RMSE (0.595) and MAE (0.416) values indicate that there is relatively little prediction error, so the model is capable of providing fairly accurate estimates for this variable.

Analysis of Mediation Effects (Indirect Effects)

Tests to determine mediation in the PLS-SEM method assess whether one or more mediating constructs mediate the influence of an exogenous construct on an endogenous construct. According to Hair et al., (2021), mediation is considered significant if the t-statistic is greater than 1.96 and the p-value is no greater than 0.05.

Table 10. Indirect Effect Test

Pathway	Original sample	Sample mean	Standard deviation	Original sample	T statistic
Discipline → Motivation → Learning Outcome	0.102	0.095	0.048	2.127	0.034
Interest → Motivation → Learning Outcome	0.148	0.133	0.06	2.466	0.014

The results of the path analysis indicate that, through motivation, learning interest has a significant indirect effect on academic achievement. With an effect coefficient of 0.148, a T-statistic of 2.466, and a p-value of 0.014 (< 0.05), it appears that students' learning interest increases as their motivation increases, which has a positive impact on their academic achievement. These results underscore the importance of fostering learning interest as a foundation for enhancing students' desire to learn.

Additionally, discipline was also found to have an indirect effect on learning outcomes through motivation. Students with higher levels of discipline tend to have higher learning motivation, as indicated by a path coefficient of 0.102, a T-statistic of 2.127, and a p-value of 0.034 (< 0.05). This suggests that these students achieve better learning outcomes. These findings emphasize that strengthening academic discipline is a useful method for supporting students' motivation and academic achievement.

With a path coefficient ($\beta = 0.360$; $p < 0.001$) and a moderate effect size ($f^2 = 0.243$), the results of the path analysis indicate that discipline has the greatest direct influence on student academic achievement. Since discipline is related to regularity in studying, consistency in completing assignments, and time management skills, these findings confirm that discipline is statistically and substantively significant in improving academic achievement. Although lower than discipline, the interest variable also has a positive impact on learning outcomes. With a path coefficient ($\beta = 0.317$; $p = 0.004$) and a moderate effect size ($f^2 = 0.158$), this indicates that students' interest in the subject matter fosters cognitive and affective engagement during the learning process. With a path coefficient ($\beta = 0.287$; $p = 0.007$) and a small-to-moderate effect size ($f^2 = 0.115$), motivation contributes to a lesser extent to learning outcomes. The results indicate that motivation functions as an internal driving factor that enhances the effectiveness of discipline and interest rather than serving as a primary predictor. Therefore, although motivation is important for supporting learning outcomes, consistent study habits and interest in the subject remain the primary components of students' academic achievement.

Mediation analysis indicates that discipline has a more direct impact on learning outcomes, while interest influences them primarily through motivation ($\beta = 0.148$; $p = 0.014$). Discipline was found to be the most dominant factor, whereas motivation serves as a bridge between interest and learning outcomes, confirming that consistent study habits form the academic foundation, and that interest and motivation enhance student engagement. According to Vroom's motivation theory, interest and discipline increase students' belief that their efforts will yield results; this study demonstrates the relationship between

students' interest, discipline, and self-regulation with their learning outcomes (Bloom's theory). These findings align with human resource management principles: fostering interest through engaging instruction, establishing clear rules to reinforce discipline, and using rewards and feedback to boost motivation.

Another theoretical approach that supports these findings is Zimmerman's theory of Self-Regulated Learning (SRL), which emphasizes that learning success is influenced by students' ability to plan, monitor, and evaluate their learning process. Strong study habits, such as consistency in completing assignments and time management skills, are central components of Self-Regulated Learning. The findings of this study align with this theory, as they show that students with high discipline are able to manage their learning activities more effectively, resulting in better academic achievement. On the other hand, interest in learning acts as an initial catalyst that encourages students to engage more deeply in the Self-Regulated Learning process; thus, when high interest is accompanied by strong self-regulation, learning outcomes improve significantly.

Becker's Human Capital theoretical framework also offers an interesting perspective for interpreting the results of this study. The theory posits that education is not merely a process of acquiring technical skills, but a long-term investment in an individual's qualities, including attitudes, habits, and personal competencies. In this context, interest, motivation, and discipline can be viewed as fundamental soft skills that enhance a student's value as a prospective worker. Therefore, the findings of this study are not only of academic value but also practically relevant in the context of vocational education. When schools succeed in fostering a love of learning, strengthening discipline, and sustaining motivation, they are effectively cultivating a superior and adaptable workforce. Thus, these research findings reinforce the notion that the success of vocational education depends on the integration of technical skills and work ethic, both of which mutually reinforce one another in preparing students to face a competitive industrial world.

These findings are consistent with research by [Aningsih et al., \(2025\)](#); [Purwonegoro & Trisnawati, \(2025\)](#); [Silitonga, \(2024\)](#), which indicates that interest and academic discipline have a positive and significant impact on student learning outcomes. These studies confirm that students with high interest tend to demonstrate more intense engagement in the learning process, both cognitively and affectively, making it easier for them to understand the material and achieve better academic performance. Furthermore, good study discipline, characterized by regular study habits, time management skills, and adherence to assignments, fosters the development of effective and sustainable academic routines. Thus, the findings of this study reinforce previous empirical evidence that interest and discipline are two psychological and behavioral factors that are crucial determinants of students' academic success.

CONCLUSION

This study reveals new findings that students' interest and discipline in learning not only have a direct impact on learning outcomes but also shape motivation as a mediating factor that strengthens the relationship between the two, such that academic success at a public vocational high school in Indonesia depends on the integration of students' attitudes, self-regulation, and internal drive. These findings have important implications for vocational education, namely that learning should not focus solely on technical competencies but must also be accompanied by the development of work ethic, discipline, and

interest in learning as the foundation for producing a workforce that is competent and adaptable to industry demands. Consequently, schools can produce graduates who are not only technically skilled but also possess strong mental preparedness and a robust work ethic.

REFERENCES

- Aningsih, E. A., Susanti, S., & Zulaihati, S. (2025). Pengaruh Minat Belajar, Kedisiplinan Belajar Dan Kemandirian Belajar Terhadap Hasil Belajar Peserta Didik Mata Pelajaran Akuntansi Keuangan Di Smk Negeri 8 Jakarta Selatan. *Didaktik : Jurnal Ilmiah PGSD STKIP Subang*, 11(03), 256–270. <https://doi.org/10.36989/didaktik.v11i03.7158>
- Arif, M. N., Parawansyah, M. I., Huda, F. H., & Zulfahmi, M. N. (2025). Strategi Menumbuhkan Minat Belajar Siswa Melalui Pendekatan Deep Learning: Jurnal Muassis Pendidikan Dasar. *Jurnal Muassis Pendidikan Dasar*, 4(1), 8–16. <https://doi.org/10.55732/jmpd.v4i1.989>
- Aryasutha, R., Azizah Ria Kusri, N., Nurul Ulya, J., & Syamsiah Septiani, N. (2025). Opportunities and Challenges for Islamic Education Teachers in Using Artificial Intelligence in Learning. *Muaddib.Intischolar.Id*, 2(1), 43. <https://muaddib.intischolar.id/index.php/muaddib/article/view/6>
- Basri, B., Khairinal, K., & Firman, F. (2021). Manajemen Kepala Sekolah dalam Meningkatkan Fungsi Guru di Sekolah Menengah Atas Negeri 4 Merangin. *Jurnal Ilmiah Dikdaya*, 11(2), 349. <https://doi.org/10.33087/dikdaya.v11i2.233>
- Boey, C. K., Sathish, S., & Koh, S. N. A. (2023). Impact of technology-enabled project-based assessments on learner outcomes in higher education. *International Journal of Mobile Learning and Organisation*, 17(1–2), 131–148. <https://doi.org/10.1504/ijmlo.2023.128354>
- Engkizar, E., Jaafar, A., Alias, M., Guspita, B., & Albizar, R. (2025). Utilisation of Artificial Intelligence in Qur'anic Learning: Innovation or Threat? *Journal of Quranic Teaching and Learning*, 1(2), 1–17. <https://joqer.intischolar.id/index.php/joqer/index>
- Engkizar, E., Muslim, H., Mulyadi, I., & Putra, Y. A. (2025). Ten Criteria for an Ideal Teacher to Memorize the Quran. *Journal of Theory and Research Memorization Quran*, 1(1), 26–39. <https://joqer.intischolar.id/index.php/joqer>
- Engkizar, Engkizar, Muliati, I., Rahman, R., & Alfurqan, A. (2018). The Importance of Integrating ICT Into Islamic Study Teaching and Learning Process. *Khalifa: Journal of Islamic Education*, 1(2), 148. <https://doi.org/10.24036/kjie.v1i2.11>
- Hair, J., & Alamer, A. (2022). Partial Least Squares Structural Equation Modeling (PLS-SEM) in second language and education research: Guidelines using an applied example. *Research Methods in Applied Linguistics*, 1(3), 100027. <https://doi.org/10.1016/j.rmal.2022.100027>
- Hair, J. F., Astrachan, C. B., Moises, O. I., Radomir, L., Sarstedt, M., Vaithilingam, S., & Ringle, C. M. (2021). Executing and interpreting applications of PLS-SEM: Updates for family business researchers. *Journal of Family Business Strategy*, 12(3), 100392. <https://doi.org/10.1016/j.jfbs.2020.100392>
- Hair, J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, 1(2), 107. <https://doi.org/10.1504/ijmda.2017.087624>
- Handayani, E. S., & Subakti, H. (2020). Pengaruh Disiplin Belajar terhadap

- Hasil Belajar Bahasa Indonesia di Sekolah Dasar. *Jurnal Basicedu*, 5(1), 151–164. <https://doi.org/10.31004/basicedu.v5i1.633>
- Harefa, D. (2023). the Relationship Between Students' Interest in Learning and Mathematics Learning Outcomes. *AFORE: Jurnal Pendidikan Matematika*, 2(2), 112–122. <https://doi.org/10.57094/afore.v2i2.1054>
- Hartawan, G. D., Ratnaya, I. G., & Santiyadnya, N. (2022). Pengaruh Minat Belajar Siswa dan Disiplin Belajar Terhadap Hasil Belajar Siswa Kelas X Pada Mata Pelajaran Produktif Di SMK Negeri 3 Singaraja. In *Jurnal Pendidikan Teknik Elektro Undiksha*. Universitas Pendidikan Ganesha.
- Jaafar, A., Kamaruzaman, N. R., & Idris, M. (2025). The Concept and Practice of Islamic Education in Realizing Peace in Society. *Muaddib: Journal of Islamic Teaching and Learning*, 1(2), 24–35. <https://muaddib.intischolar.id/index.php/muaddib/article/view/10>
- Kemdikbud. (2022). Peraturan Menteri Pendidikan, Kebudayaan, Riset, dan Teknologi No 21 Tahun 2022 Tentang Standar Penilaian Pendidikan pada Pendidikan Anak Usia Dini, Jenjang Pendidikan Dasar, dan Jenjang Pendidikan Menengah. *Kementerian Pendidikan Dan Kebudayaan Riset Dan Teknologi*, 9, 9.
- Nahampun, S. H., Gurning, P. P., Nexandika, R., Zalukhu, Y. A. A., & Sianturi, M. E. (2024). Efektivitas Metode Pembelajaran Berbasis Game dalam Meningkatkan Motivasi Belajar Siswa Sekolah Dasar. *Sinar Dunia: Jurnal Riset Sosial Humaniora Dan Ilmu Pendidikan*, 3(3), 63–68. <https://doi.org/10.58192/sidu.v3i3.2415>
- Prasetyo, M. B., & Rosy, B. (2020). Model Pembelajaran Inkuiri Sebagai Strategi Mengembangkan Kemampuan Berpikir Kritis Siswa. *Jurnal Pendidikan Administrasi Perkantoran (JPAP)*, 9(1), 109–120. <https://doi.org/10.26740/jpap.v9n1.p109-120>
- Purwonegoro, L. A., & Trisnawati, N. (2025). Pengaruh Minat, Disiplin dan Kemampuan Berpikir Kritis terhadap Hasil Belajar di SMK PGRI 2 Sidoarjo. *Aljabar: Jurnal Ilmuan Pendidikan, Matematika Dan Kebumian*, 1(3), 172–183. <https://doi.org/10.62383/aljabar.v1i3.694>
- Rahmadi, R. T., Zulaihati, S., & Susanti, S. (2021). the Influence of Learning Discipline and Peer Environment on Learning Outcomes of Business Economy in Class X At One of Smk Negeri in Jakarta. *Jurnal Pendidikan Ekonomi, Perkantoran, Dan Akuntansi*, 1(1), 23–36. <https://doi.org/10.21009/jpepa.0101.03>
- Rio, T. G., & Rodriguez, J. (2022). Design and assessment of a project-based learning in a laboratory for integrating knowledge and improving engineering design skills. *Education for Chemical Engineers*, 40, 17–28. <https://doi.org/10.1016/j.ece.2022.04.002>
- Safna, O. P., & Wulandari, S. S. (2022). Pengaruh Motivasi, Disiplin Belajar, dan Kemampuan Berpikir Kritis terhadap Hasil Belajar Siswa. *Scaffolding: Jurnal Pendidikan Islam Dan Multikulturalisme*, 4(2), 140–154. <https://doi.org/10.37680/scaffolding.v4i2.1458>
- Saputri, J., Damayanti, L., Luthfiah, Q., Kiska, N. D., & Sherlyna, S. (2021). Pemanfaatan ICT dalam Meningkatkan Motivasi Peserta Didik pada Pembelajaran Pendidikan Islam di Sekolah Dasar. *Khalifa: Journal of Islamic Education*, 5(2), 130. <https://doi.org/10.24036/kjie.v5i2.148>
- Silitonga, J. (2024). Pengaruh Minat Dan Disiplin Belajar Terhadap Hasil Belajar Siswa Kelas XI di SMA Swasta Taman Siswa Pematangsiantar. *Jurnal Sains Student Research*, 2(3), 722–730. <https://doi.org/10.61722/jssr.v2i3.1473>
- Singal, J. O., Watung, S. R., & Taroreh, J. (2025). Analisis Faktor-Faktor yang

- Mempengaruhi Minat Belajar Terhadap Hasil Belajar Siswa di SMA Negeri 1 Maesaan Tompaso Baru Kelas XI Mata Pelajaran Ekonomi. *Ekopedia: Jurnal Ilmiah Ekonomi*, 1(4), 1815–1825. <https://doi.org/10.63822/ytp39e91>
- Sojanah, J., & Kencana, N. P. (2021). Motivasi dan kemandirian belajar sebagai faktor determinan hasil belajar siswa. *Jurnal Pendidikan Manajemen Perkantoran*, 6(2), 214–224. <https://doi.org/10.17509/jpm.v6i2.40851>
- Syafril, S., Yaumas, N. E., Engkizar, E., Jaafar, A., & Arifin, Z. (2021). Sustainable Development: Learning the Quran Using the Tartil Method. *Al-Ta Lim Journal*, 28(1), 1–8. <https://doi.org/10.15548/jt.v1i1.673>
- Yu, H. (2024). Enhancing creative cognition through project-based learning: An in-depth scholarly exploration. *Heliyon*, 10(6), 27706. <https://doi.org/10.1016/j.heliyon.2024.e27706>
- Yusnita, Y., Eriyanti, F., Engkizar, E., Anwar, F., Putri, N. E., Arifin, Z., & Syafril, S. (2018). The Effect of Professional Education and Training for Teachers (PLPG) in Improving Pedagogic Competence and Teacher Performance. *Tadris: Jurnal Keguruan Dan Ilmu Tarbiyah*, 3(2), 123. <https://doi.org/10.24042/tadris.v3i2.2701>

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