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The Effect of Learning Motivation and Learning Discipline on Students' Cognitive Ability in Pancasila and Civic Education

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ABSTRACT

This study aims to analyze the effect of learning motivation and learning discipline on students' cognitive abilities in the subject of Pancasila and Civic Education (PPKn) at SMA Negeri 1 Tabukan Tengah, Sangihe Islands Regency. The background of this research lies in the low levels of students' motivation and learning discipline which have affected suboptimal cognitive achievement. A quantitative approach with a survey design was employed. The sample consisted of 63 students selected using the Yamane formula from a total population of 75 students. Data were collected through *Likert*-scale questionnaires, observation, and documentation. Instruments were validated using *Pearson Product Moment* correlation and reliability tested with *Cronbach's Alpha*. Data analysis included *Kolmogorov-Smirnov* normality test, linearity test, simple and multiple linear regression, partial *t*-test, and simultaneous *F*-test. The results indicate that: (1) learning motivation significantly affects students' cognitive ability (t = 6.043 > t table = 1.999; ρ < .05); (2) learning discipline significantly affects students' cognitive ability (t = 7.613 > t table = 1.999; ρ < .05); and (3) both variables simultaneously exert a significant effect on cognitive ability (F = 36.842; p = .000 < .05). These findings imply that integrating the development of motivation and learning discipline constitutes a key strategy for improving PPKn learning quality at the senior high school level.

Keywords: Learning Discipline; Cognitive Ability; Learning Motivation; Senior High School Student.

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INTRODUCTION

Education constitutes one of the fundamental pillars in the development of high-quality and character-driven human resources. As mandated in the Preamble to the 1945 Constitution of the Republic of Indonesia, the overarching goal of national education is to promote the intellectual development of the nation. Achieving this objective requires a high-quality learning process in which students are not merely passive recipients of information but are capable of processing, analyzing, and applying knowledge in real-life contexts (Slameto, 2015). This intellectual capacity is referred to in educational psychology as cognitive ability, an internal mental process occurring within the central nervous system through which individuals think, reason, and understand the world around them (Mulyono Abdurrahman, 2012).

Within the classroom learning environment, students' cognitive achievement is not determined solely by innate intelligence. A substantial body of empirical research has demonstrated that psychological variables, particularly learning motivation and learning discipline, significantly contribute to students' academic performance and learning outcomes (Schunk & DiBenedetto, 2020; Zimmerman, 2000). Learning motivation, defined as the internal and external driving force that directs students' engagement in learning activities (Sardiman, 2012), has been shown to enhance students' involvement with instructional materials, thereby strengthening conceptual understanding and promoting long-term knowledge retention. Likewise, learning discipline reflects the internalization of orderliness, responsibility, and academic commitment, enabling students to effectively manage their time and learning efforts (Wahyono, 2012).

The phenomenon of low learning motivation and poor learning discipline has been clearly observed at SMA Negeri 1 Tabukan Tengah, located in the Sangihe Islands Regency, North Sulawesi Province. Preliminary observations conducted by the researchers revealed several concerning indicators. A considerable number of students paid limited attention to teachers' explanations, frequently failed to complete assignments on time, arrived late at school, violated classroom regulations, and often left the classroom during instructional activities. The direct consequences of these conditions are reflected in the achievement data for the Pancasila and Civic Education (PPKn) subject, where approximately 63 out of 75 students scored below the Minimum Competency Standard (SKM). As a subject entrusted with fostering democratic, responsible, and informed citizens, PPKn requires students to attain adequate levels of cognitive competence to achieve its educational objectives (Pangalila, 2017).

These conditions indicate a discrepancy between the intended goals of education and the realities of the learning process occurring within the school. Low levels of learning motivation and discipline may hinder the development of students' cognitive abilities, particularly in understanding concepts, analyzing problems, and making rational decisions. If left unaddressed, this situation may contribute to a continued decline in learning outcomes and hinder the achievement of curriculum-based competencies. Therefore, a deeper understanding of the factors influencing students' cognitive abilities is essential to enable schools to formulate more effective instructional and developmental strategies aimed at improving educational quality.

The significance of this study is further reinforced by the limited number of studies that specifically examine the simultaneous effects of learning motivation and learning discipline on cognitive ability within the context of education in Indonesia's remote island

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regions. Existing studies have predominantly been conducted in urban settings, suggesting that findings from regions such as the Sangihe Islands may provide distinct empirical insights and contextually relevant contributions to the literature. Accordingly, this study aims to analyze: (1) the effect of learning motivation on students' cognitive abilities; (2) the effect of learning discipline on students' cognitive abilities; and (3) the simultaneous effect of learning motivation and learning discipline on students' cognitive abilities in the Pancasila and Civic Education (PPKn) subject at SMA Negeri 1 Tabukan Tengah, Sangihe Islands Regency.

METHOD

This study employed a quantitative approach with a causal-comparative survey design. This approach was selected because the study aimed to examine the causal relationship between independent variables and the dependent variable through inferential statistical analysis (Creswell & Creswell, 2018). All stages of the research process, including data collection, data processing, and interpretation of results, were carried out systematically and measurably to obtain objective findings that can be scientifically justified.

The study was conducted at SMA Negeri 1 Tabukan Tengah, located in Kuma Village, Central Tabukan District, Sangihe Islands Regency, North Sulawesi Province. Data collection activities were carried out over a two-month period, from December 2025 to January 2026. The population of this study consisted of all students of SMA Negeri 1 Tabukan Tengah, totaling 75 students. The sample size was determined using the Yamane (1967) formula with an error tolerance of 5%, resulting in a sample of 63 students. The sample was selected proportionally from all grade levels to adequately represent the characteristics of the population.

This study involved three variables, namely learning motivation (X_1), learning discipline (X_2), and cognitive ability (Y). Learning motivation was defined as the internal and external driving force that encourages students to actively engage in the learning process, measured through indicators of persistence, perseverance, learning interest, independence, and achievement orientation. Learning discipline was defined as students' consistent attitude in complying with rules and fulfilling learning obligations, measured through indicators of punctuality, adherence to regulations, task completion, and regularity in studying. Meanwhile, cognitive ability refers to students' capacity to understand, remember, analyze, and apply concepts of Pancasila and Civic Education (PPKn), measured based on an adaptation of the cognitive domain of Bloom's Taxonomy.

Research data were collected using a closed-ended questionnaire with a five-point Likert scale, ranging from a score of 1 (*Strongly Disagree*) to a score of 5 (*Strongly Agree*). Each variable was measured using 10 statement items developed based on the predetermined operational indicators. Prior to its use in the study, the instrument was tested for validity using Pearson's Product-Moment Correlation, with a correlation coefficient criterion greater than 0.30 (Field, 2018). Reliability testing was conducted using Cronbach's Alpha coefficient with a minimum threshold of 0.70. In addition to questionnaires, data were also obtained through direct observation of the learning process and documentation studies in the form of students' academic scores.

Data analysis was performed using IBM SPSS Statistics software at a significance level of 0.05. The analytical procedures included a normality test using the Kolmogorov–Smirnov test and a linearity test as prerequisites for the analysis. Hypothesis testing was conducted through simple linear regression analysis to determine the partial effect of

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learning motivation on cognitive ability and the partial effect of learning discipline on cognitive ability. Furthermore, the simultaneous effect of both independent variables on cognitive ability was analyzed using multiple linear regression with the equation model $\hat{Y} = a + b_1X_1 + b_2X_2$. The significance of each variable's effect was tested using the *t*-test, while the joint effect of the independent variables was examined using the *F*-test.

RESULTS AND DISCUSSION

Validity and Reliability Test Results

All research instruments used in this study met the validity criteria. The results of the validity test indicated that all 10 statement items for each variable had correlation coefficients (*r* calculated) greater than the minimum threshold of 0.30. Therefore, all items were declared valid and suitable for data collection. For the Learning Motivation variable (X_1), the calculated *r* values ranged from 0.575 to 0.721. The Learning Discipline variable (X_2) showed calculated *r* values ranging from 0.687 to 0.774, while the Cognitive Ability variable (Y) had calculated *r* values ranging from 0.603 to 0.736. These findings indicate that each statementitem was able to adequately measure the intended construct.

In addition to being valid, the research instruments were also proven to be reliable based on the results of Cronbach's Alpha testing. The Learning Motivation variable obtained an α value of 0.839, Learning Discipline obtained an α value of 0.897, and Cognitive Ability obtained an α value of 0.847. All values exceeded the minimum threshold of 0.70, indicating a high level of internal consistency. Therefore, the instruments used in this study can be considered highly reliable and capable of producing consistent data to support further analysis (George & Mallery, 2003).

Normality and Linearity Tests

The results of the normality test using the Kolmogorov–Smirnov method indicated that all research variables were normally distributed. The Learning Motivation variable (X_1) obtained an Asymp. Sig. value of 0.200, the Learning Discipline variable (X_2) obtained a value of 0.178, and the Cognitive Ability variable (Y) obtained a value of 0.154. All significance values were greater than the 0.05 significance level, indicating that the data met the assumption of normality and were suitable for parametric statistical analysis.

Furthermore, the results of the linearity test showed that the relationship between Learning Motivation (X_1) and Cognitive Ability (Y) was linear, with a Sig. Linearity value of 0.000 (< 0.05). Similarly, the relationship between Learning Discipline (X_2) and Cognitive Ability (Y) was also found to be linear, with a Sig. Linearity value of 0.001 (< 0.05). These findings indicate that changes in the independent variables were accompanied by proportional changes in the dependent variable. Since the assumptions of normality and linearity were satisfied, linear regression analysis was deemed appropriate for testing the research hypotheses.

Effect of Learning Motivation on Cognitive Ability (H1)

The results of the simple linear regression analysis produced the regression equation $\hat{Y} = 39.585 + 0.068X_1$. The positive regression coefficient ($b_1 = 0.068$) indicates that every one-unit increase in learning motivation is associated with a 0.068-unit increase in cognitive ability. This finding suggests a positive relationship between learning motivation and cognitive ability, whereby higher levels of learning motivation are associated with higher levels of students' cognitive ability.

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The partial hypothesis test using the *t*-test revealed a calculated *t* value of 6.043, which was greater than the critical *t* value of 1.999 at a significance level of 0.05 with 61 degrees of freedom (df = 61). Therefore, H_0 was rejected and H_1 was accepted, indicating that learning motivation has a significant effect on students' cognitive ability. This result confirms that learning motivation is an important factor contributing to students' ability to understand, remember, analyze, and apply learning materials.

The findings of this study are consistent with the Self-Determination Theory proposed by Edward L. Deci and Richard M. Ryan (1985), which posits that intrinsic motivation encourages individuals to engage more deeply in learning activities. Students with high levels of learning motivation tend to be more persistent in processing information, actively seek a deeper understanding of the material being studied, and are better able to establish meaningful connections among concepts. These conditions ultimately contribute to the enhancement of students' cognitive abilities. The findings also support the conclusions of Paul R. Pintrich and Dale H. Schunk (2002), as well as Dale H. Schunk and Michael K. DiBenedetto (2020), who identified learning motivation as one of the primary predictors of academic success and the development of students' thinking abilities at the secondary education level.

Effect of Learning Discipline on Cognitive Ability (H2)

The results of the simple linear regression analysis yielded the regression equation $\hat{Y} = 38.867 + 0.088X_2$. The positive regression coefficient ($b_2 = 0.088$) indicates that learning discipline has a positive effect on students' cognitive ability. In other words, every one-unit increase in learning discipline is associated with a 0.088-unit increase in cognitive ability. This finding suggests that the higher the level of learning discipline possessed by students, the better their ability to understand and process learning materials.

The results of the partial hypothesis test using the *t*-test showed a calculated *t* value of 7.613, which was greater than the critical *t* value of 1.999 at the 0.05 significance level. Therefore, H_0 was rejected and H_2 was accepted, indicating that learning discipline has a significant effect on students' cognitive ability. Furthermore, the regression coefficient of learning discipline (0.088) was greater than that of learning motivation (0.068), suggesting that, within the context of this study, learning discipline made a relatively more dominant contribution to the improvement of students' cognitive ability.

These findings are consistent with the perspective advanced by Barry J. Zimmerman (2000), who identified self-regulation as one of the primary determinants of academic achievement. Students with a high level of learning discipline tend to manage their study time effectively, monitor their level of understanding, and evaluate their learning progress. Such abilities play a crucial role in supporting cognitive development, as they enable students to engage in learning in a more structured and sustained manner. The findings of this study also reinforce those of La Doni et al. (2021), who reported a strong relationship between discipline and learning outcomes in Civic Education. Through regularity and consistency in the learning process, students become better prepared to receive, process, and integrate new knowledge into their existing cognitive structures (Djamarah, 2006).

Simultaneous Effect of Learning Motivation and Learning Discipline on Cognitive Ability (H3)

The simultaneous *F*-test produced an F value of 36.842 with a significance level of $0.000 < 0.05$, indicating that H_3 was accepted. The resulting multiple regression equation

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was: $\hat{Y} = a + 0.068X_1 + 0.088X_2$. The substantial *F* value reflects the strong combined influence of the two independent variables on students' cognitive ability.

Substantively, these findings demonstrate that learning motivation and learning discipline operate synergistically rather than substituting for one another. Learning motivation provides the energy and cognitive drive necessary for students to engage in the learning process, whereas learning discipline ensures that such engagement is sustained in a consistent and structured manner (Pintrich & Schunk, 2002).

The combination of these two factors creates a productive learning cycle. Students who are both highly motivated and disciplined are more likely to engage in higher-order thinking activities in Pancasila and Civic Education (PPKn), such as analyzing public policies, evaluating citizenship issues, and synthesizing Pancasila values in real-life contexts (Pangalila, 2017; Bloom et al., 1956). Consequently, the simultaneous enhancement of learning motivation and learning discipline contributes significantly to the development of students' cognitive abilities and supports the achievement of educational objectives.

Table 1. Summary of Hypothesis Testing Results

Hypothesis	Statistic Test	Decision
H1: Learning Motivation → Cognitive Ability	t = 6,043 > t tabel = 1,999; Sig. < 0,05	Accepted
H2: Learning Discipline → Cognitive Ability	t = 7,613 > t tabel = 1,999; Sig. < 0,05	Accepted
H3: Learning Motivation and Learning Discipline → Cognitive Ability	F = 36,842; Sig. = 0,000 < 0,05	Accepted

Source: Primary Data Analysis Results, 2026

CONCLUSION

This study successfully confirmed three main propositions regarding the determinants of students' cognitive ability in Pancasila and Civic Education (PPKn) at SMA Negeri 1 Tabukan Tengah. First, learning motivation was found to have a significant effect on students' cognitive ability ($t = 6.043 > t$ critical = 1.999; $p < 0.05$), indicating that higher levels of learning motivation are associated with stronger cognitive ability. Second, learning discipline was found to have a significant effect on students' cognitive ability ($t = 7.613 > t$ critical = 1.999; $p < 0.05$), with a slightly more dominant partial contribution than learning motivation. Third, learning motivation and learning discipline simultaneously exerted a highly significant effect on students' cognitive ability ($F = 36.842$; Sig. = 0.000 < 0.05).

These findings imply that educational interventions designed to improve the quality of PPKn learning at the secondary school level should integrate strategies aimed at enhancing students' learning motivation and strengthening learning discipline in a comprehensive and sustainable manner. Future research is recommended to explore other potential mediating or moderating variables, such as learning styles, teacher competence, or family support, as well as to expand the sample to other schools in island regions in order to enhance the generalizability of the findings.

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