



The Relationship Between Student Discipline and Academic Achievement  
in Physical Education Among Senior High School Students

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Abstract
<p><b>Objectives.</b> The primary issue addressed in this study is the low academic performance of students in Physical Education, which is believed to be linked to their level of learning discipline. This study aims to examine the relationship between student discipline and academic achievement in Physical Education among grade XI students at SMA Negeri 5 Kota Bima. It will assess how student discipline influences learning outcomes and explore the role of the school climate in supporting both discipline and academic success. Additionally, the study will provide recommendations for improving student discipline and the school environment to enhance academic performance.</p> <p><b>Materials and Methods.</b> This study involved Grade XI students from SMA Negeri 5 Kota Bima, Indonesia, with a sample of 58 students selected using proportional random sampling from two academic tracks: Science and Social Studies. The study was conducted from June to September and included stages such as proposal preparation, data collection, analysis, and thesis writing. Data was collected using two methods: (1) a structured questionnaire to assess student discipline and school climate, with both positive and negative items scored numerically, and (2) the documentation method to gather academic performance data from official school records, specifically final semester grades.</p> <p><b>Results.</b> A total of 58 students were selected from six classes at SMA Negeri 5 Kota Bima using proportional random sampling. Data on learning discipline were collected through a structured questionnaire, while academic achievement data in physical education were obtained from official school records. The learning discipline scores ranged from 85 to 95, with a mean score of 91, while the learning achievement scores ranged from 82 to 92, with a mean of 87. The analysis using the Product Moment Correlation revealed a significant positive correlation between learning discipline and academic achievement in physical education, confirming the hypothesis that higher discipline is associated with better academic performance in PE.</p> <p><b>Conclusion.</b> This study reveals a strong correlation between learning discipline and physical education achievement. Students with high learning discipline tend to perform better in physical education, while those with lower discipline generally score lower. The correlation coefficient of <math>r_{xy} = 0.906</math> indicates a very strong relationship. Future research could explore additional factors like motivation, teaching methods, or socio-economic background, and consider longitudinal studies or broader sample sizes for more comprehensive insights.</p>
<p><b>Keywords :</b> Student Discipline, Academic Achievement, Physical Education, Senior High School, Correlation Analysis.</p>

**Introduction**

Over time, the development of science and technology has advanced rapidly. The wave of globalization has become increasingly intense, bringing with it fierce competition in various aspects of life, including the field of education (Skare & Riberio Soriano, 2021). In order to face these significant challenges, the need for high-quality human resources is more critical than ever. One of the most effective ways to achieve this is by improving the quality of education (Tran, 2024).

(World Bank, 2018) The Indonesian government has made several efforts to enhance educational quality. These include curriculum reform, teacher training programs, improvement of textbooks, and the provision of educational tools and teaching aids. However, despite these initiatives, the outcomes have not yet met expectations. These government efforts will be ineffective without the full support and participation of teachers, parents, students, and the wider community in fostering better educational outcomes (Pak et al., 2020).

When discussing the quality of education, it is impossible to overlook the role of the learning process. The ultimate goal of learning is academic achievement (Webb et al., 2020). High academic achievement is desired by all parties involved students, parents, and especially teachers. Achieving optimal academic performance, however, requires a conducive environment that allows students to learn effectively and explore both their physical and psychological potential(Nunes et al., 2023).

Attaining good academic performance is not an easy task. It is influenced by multiple factors, one of the most significant being the student's own characteristics, particularly their study habits and discipline (Mulaudzi, 2017). Discipline plays a crucial role in shaping students' learning behavior. Schools, as formal institutions for teaching and learning, rely on rules and structured environments to ensure a smooth learning process. For this reason, all students must follow school regulations with a strong sense of discipline (Bagus Pratama Dyah Aan Firman Syah et al., 2025).

(Bugdol, 2018) discipline is the obedience to uphold and implement a system that requires individuals to comply with decisions, instructions, or prevailing regulations. Such discipline is essential in guiding the development of students toward a better future. The type of discipline examined in this study is academic discipline. Learning discipline is important because it reflects a student's readiness to attend lessons, pay attention in class, complete assignments on time, and come prepared with the necessary learning materials (Admin, 2024).

(Ginns et al., n.d.) defines learning as a change in personality, implying that learning outcomes are closely tied to habitual practice. The success of such habits largely depends on the individual's ability to establish and maintain discipline. Thus, discipline significantly influences students' academic performance. In addition to discipline, another influential factor is the school climate (Honicke et al., 2023). School climate refers to the learning environment that fosters positive behavior and shared values, thereby supporting an effective teaching and learning process, school climate comprises the norms, expectations, and shared beliefs of school personnel that motivate students to achieve higher academic success (Moran, 1996).

In reality, preliminary observations conducted by the researcher at SMA Negeri 5 Kota Bima reveal that student discipline—particularly among second-year students—is still lacking. This is evident from frequent tardiness, failure to complete assignments on time, and involvement in inter-student conflicts. Moreover, the school climate at SMA Negeri 5 Kota Bima also appears to be underdeveloped. Physically, the school facilities are not well-organized, and psychosocially, the relationships among school members are not yet well-established.

Preliminary observations at SMA Negeri 5 Kota Bima indicate a decline in student discipline, reflected in frequent tardiness, incomplete assignments, and conflicts among students. Additionally, the school climate remains unconducive—both in terms of physical conditions, as facilities are poorly organized, and psychosocial aspects, as social interactions among members of the school community are not well established.

Given this context, the present study is significant as it seeks to provide empirical evidence on the relationship between learning discipline and academic achievement, particularly in the subject of Physical Education. The findings are expected to serve as a foundation for schools and policymakers in developing effective interventions or programs aimed at enhancing student discipline and improving the overall school climate.

Furthermore, this research addresses a gap in the local body of literature by exploring how discipline and school climate relate to student learning outcomes within the Indonesian high school context.

In summary, student academic success is influenced by both internal and external factors. One key internal factor is student discipline during the teaching and learning process, while a significant external factor is the school climate. The relationship between these factors and student achievement needs to be examined through empirical research. Therefore, the researcher is motivated to conduct a study entitled: “The Relationship Between Student

Discipline and Academic Achievement in Physical Education Among Grade XI Students at SMA Negeri 5 Kota Bima.”

Materials and Methods

Study Participants.

The participants in this study were Grade XI students from SMA Negeri 5 Kota Bima, located in Jatibaru, Bima, Indonesia. The total population consisted of 192 students from two academic tracks: Science and Social Studies. A sample size of 30% was selected, amounting to 58 students, based on considerations of research area limitations and researcher capacity (Sugiyono, 2012). The sample was determined using proportional random sampling, ensuring proportional representation from each class, with random selection conducted through a lottery system.

Study organization.

This study was conducted at SMA Negeri 5 Kota Bima and followed a structured timeline beginning in June and concluding in September. The research process included proposal preparation, proposal seminar, data collection, data processing and analysis, regular consultations, final seminar, thesis writing, thesis defense, and revision.

The study employed two main data collection methods (Silalahi, 2015):

1. **Questionnaire Method:** A structured questionnaire with four-option multiple choice answers was used to assess student discipline and school climate. The questionnaire consisted of both positive and negative items, with the latter reverse-scored. Items were developed based on a blueprint aligning with specific research indicators. Qualitative responses were transformed into quantitative data using a numeric scoring system.
2. **Documentation Method:** This method was used to obtain students’ academic performance data from official school records, specifically final semester grades recorded in the school ledger (leger nilai).

Statistical analysis.

Data analysis involved two main techniques:

1. **Descriptive Percentage Analysis:** This technique was applied to describe student discipline and school climate variables. It involved creating a frequency distribution table, assigning scores to each response, and calculating percentages using the formula:

$$\% = \left( \frac{n}{N} \right) \times 100$$

Where:

$n$  = Total score obtained

$N$  = Maximum possible score (number of respondents  $\times$  number of questions  $\times$  highest score per item)

The percentage scores were interpreted using the following interval scale:

**Table 1.** Classification of Learning Discipline Based on Score Intervals

Interval	Learning Discipline Category
$81\% < \% \leq 100\%$	Very Disciplined
$63\% < \% \leq 81\%$	Disciplined
$44\% < \% \leq 63\%$	Moderately Disciplined
$25\% < \% \leq 44\%$	Poor Discipline

Hypothesis      Testing      with      Pearson      Product-Moment      Correlation:  
To test the relationship between student discipline (independent variable) and academic achievement (dependent variable), the Pearson correlation formula was used:

$$r_{xy} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{[N \sum X^2 - (\sum X)^2][N \sum Y^2 - (\sum Y)^2]}}$$

The correlation coefficient ( $r$ ) was interpreted according to the following scale:

**Table 2.** Interpretation of Correlation Coefficient ( $r$ ) Based on the Scale

Correlation Coefficient	Interpretation
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0.800 – 1.000	Very Strong
0.600 – 0.800	Strong
0.400 – 0.600	Moderate
0.200 – 0.400	Weak
0.000 – 0.200	Very Weak/No Correlation

Results

To achieve the objectives of this research, a systematic approach was undertaken, beginning with sample determination and followed by data collection. The sample was drawn from male students of Grade XI at SMA Negeri 5 Kota Bima. Using a proportional random sampling technique, 30% of the total population amounting to 58 students out of 192 were selected across six different classes. The random sampling process ensured equal opportunity for each student to be selected, thereby enhancing the representativeness of the data.

Following the sample selection, the next step involved collecting the necessary research data. Data on students’ learning discipline were gathered through a structured questionnaire designed to measure behavioral consistency, time management, and classroom responsibility. Meanwhile, academic achievement data in physical education were obtained from school records, specifically students’ grades listed in the official report ledger. These data provided a quantitative basis to analyze the correlation between learning discipline and academic performance in physical education.

sample of 58 students was drawn from six classes. The sample distribution is shown in Table

Table 3. Sample Distribution by Class

Class	Number of Students	Sample Size
II IPA 1	36	11
II IPA 2	35	11
II IPA 3	33	10
II IPS 1	29	9
II IPS 2	30	9
II IPS 3	29	9
Total	192	58

The sampling technique used was random sampling through a lottery method. The names of selected respondents are listed in Table 4:

Table 4. List of Respondents

No	Name of Respondent	Class
1	Ahmad Arifin	II IPA 1
2	Dedi Kurniawan	II IPA 1
3	Yusril Ihza Mahendra	II IPS 3

2. Data Collection

After identifying the sample, data collection was conducted. Learning discipline data were obtained through a structured questionnaire, while learning achievement data were taken from students' PE scores in the school's report ledger.

Table 5. Summary of Discipline and Achievement Scores

Variable	Min Score	Max Score	Mean Score
Learning Discipline	85	95	91
Learning Achievement	82	92	87

B. Data Analysis

To examine the relationship between learning discipline and PE achievement, the Product Moment Correlation technique was used. The hypotheses were:

- $H_a$ : There is a relationship between learning discipline and PE academic achievement.
- $H_0$ : There is no relationship between learning discipline and PE academic achievement.

Table 6. Calculation Working Table for Correlation Analysis

No	X (Discipline)	Y (Achievement)	$X-\bar{X}$	$Y-\bar{Y}$	$(X-\bar{X})^2$	$(Y-\bar{Y})^2$	$(X-\bar{X})(Y-\bar{Y})$
1	90	85	-1	-2	1	4	2
2	92	88	1	1	1	1	1
58	91	87	0	0	0	0	0

The calculated correlation coefficient ( $r_{xy}$ ) was significant and positive, indicating a clear relationship between the two variables.

Discussion.

The analysis results indicate a positive and significant relationship between learning discipline and academic achievement in Physical Education among Grade II students at SMA Negeri 5 Kota Bima.



This finding supports earlier studies which suggest that discipline plays a crucial role in shaping academic performance. Students with strong discipline are more consistent in completing tasks, attending classes, and maintaining focus all of which contribute positively to their academic achievement (Steinmayr et al., 2019).

Additionally, this outcome aligns with self-regulated learning theory which emphasizes the role of personal regulation in enhancing learning outcomes. Disciplined students tend to set goals, monitor their progress, and manage their time efficiently (Zimmerman, 2015).

The rejection of the null hypothesis ( $H_0$ ) and acceptance of the alternative hypothesis ( $H_a$ ) validates the research assumption. Thus, it is evident that efforts to improve student discipline—such as goal-setting activities, classroom behavior reinforcement, and parental involvement—could yield improvements in PE academic outcomes. It is recommended that future research explore similar variables across different subjects or educational levels, and that schools implement programs to foster discipline as a foundational academic competency.

**Conclusions.**

This study indicates a strong correlation between learning discipline and physical education achievement. Students who demonstrate high learning discipline tend to have high performance in physical education, while those with low discipline are likely to achieve lower scores. The correlation coefficient of  $r_{xy} = 0.906$ , which falls within the range of 0.800–1.00, suggests a very strong relationship between these two variables. Future studies could explore additional factors that might influence the relationship between learning discipline and academic achievement, such as motivation, teaching methods, or socio-economic background. It would also be beneficial to conduct a longitudinal study to observe how these relationships evolve over time. Additionally, expanding the study to other educational institutions or incorporating a broader sample size could provide more comprehensive insights.

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both directly and indirectly, in completing this research. I hope that the results of this study will contribute to the advancement of knowledge and education."

**Conflict of interest**

Have no conflict of interest to declare.

**References**

Admin. (2024, December 7). *Exploring the Meaning of Discipline in Education: Key Insights*. <https://steps4kids.com/what-does-discipline-mean-in-education/>

Bagus Pratama Dyah Aan Firman Syah, A., Janah, N., & Hadi Siswanto, D. (2025). (PDF) School strategies in instilling student discipline to improving education quality. *ResearchGate*. <https://doi.org/10.17509/curricula.v4i1.81149>

Bugdol, M. (2018). The Definitions, Types and Functions of Discipline as Well as Factors Influencing Discipline. In *A Different Approach to Work Discipline* (pp. 1–53). Palgrave Macmillan, Cham. [https://doi.org/10.1007/978-3-319-74008-9\\_1](https://doi.org/10.1007/978-3-319-74008-9_1)

Binns, P., Liem, G. A. D., & Martin, A. J. (n.d.). (PDF) The role of personality in learning processes and learning outcomes in applied settings. In *ResearchGate*. [https://www.researchgate.net/publication/281156341\\_The\\_role\\_of\\_personality\\_in\\_learning\\_processes\\_and\\_learning\\_outcomes\\_in\\_applied\\_settings](https://www.researchgate.net/publication/281156341_The_role_of_personality_in_learning_processes_and_learning_outcomes_in_applied_settings)

Honicke, T., Broadbent, J., & Fuller-Tyszkiewicz, M. (2023). The self-efficacy and academic performance reciprocal relationship: The influence of task difficulty and baseline achievement on learner trajectory. *Higher Education Research & Development*, 42(8), 1936–1953. <https://doi.org/10.1080/07294360.2023.2197194>

Moran, A. P. (with Internet Archive). (1996). *The psychology of concentration in sport performers: A cognitive analysis*. Hove, East Sussex, UK: Psychology Press. <http://archive.org/details/psychologyofconc0000mora>

Mulauzi, I. C. (2017). (PDF) Factors Affecting Students' Academic Performance: A Case Study of the University Context. *ResearchGate*. [https://www.researchgate.net/publication/378709144\\_Factors\\_Affecting\\_Students'\\_Academic\\_Performance\\_A\\_Case\\_Study\\_of\\_the\\_University\\_Context](https://www.researchgate.net/publication/378709144_Factors_Affecting_Students'_Academic_Performance_A_Case_Study_of_the_University_Context)

Nunes, C., Oliveira, T., Castelli, M., & Cruz-Jesus, F. (2023). Determinants of academic achievement: How parents and teachers influence high school students' performance. *Heliyon*, 9(2), e13335. <https://doi.org/10.1016/j.heliyon.2023.e13335>

Pak, K., Polikoff, M. S., Desimone, L. M., & Saldívar García, E. (2020). The Adaptive Challenges of Curriculum Implementation: Insights for Educational Leaders Driving Standards-Based Reform. *AERA Open*, 6(2), 2332858420932828. <https://doi.org/10.1177/2332858420932828>

Silalahi, U. (2015). Metode Penelitian Sosial Kuantitatif. *Journal of Visual Languages & Computing*, 11(3), 287–301.

Skare, M., & Riberio Soriano, D. (2021). How globalization is changing digital technology adoption: An international perspective. *Journal of Innovation & Knowledge*, 6(4), 222–233. <https://doi.org/10.1016/j.jik.2021.04.001>

Steinmayr, R., Weidinger, A. F., Schwinger, M., & Spinath, B. (2019). The Importance of Students' Motivation for Their Academic Achievement – Replicating and Extending Previous Findings. *Frontiers in Psychology*, 10, 1730. <https://doi.org/10.3389/fpsyg.2019.01730>

Sugiyono. (2012). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. CV. Alfabeta.

Tran, P. P. (2024). High-Quality Human Resources in the Labor Market: A First Assessment of Potential and Obstacles. *Sage Open*, 14(3), 21582440241267259. <https://doi.org/10.1177/21582440241267259>

Webb, T., Dicks, M., Thelwell, R., Van Der Kamp, J., & Rix-Lievre, G. (2020). An analysis of soccer referee experiences in France and the Netherlands: Abuse, conflict, and level of support. *Sport Management Review*, 23(1), 52–65. <https://doi.org/10.1016/j.smr.2019.03.003>

World Bank. (2018). *Improving Teaching and Learning in Indonesia* [Text/HTML]. World Bank. <https://www.worldbank.org/en/country/indonesia/brief/improving-teaching-and-learning-in-indonesia>

Zimmerman, B. J. (2015). Self-Regulated Learning: Theories, Measures, and Outcomes. In *International Encyclopedia of the Social & Behavioral Sciences* (pp. 541–546). Elsevier. <https://doi.org/10.1016/B978-0-08-097086-8.26060-1>