

Correlation Study of Character, Physical Literacy, And Exercise Habits On Mastery of Learning Materials in Physical Education, Sports and Health Among PJSD UNY Students

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ABSTRACT: This study aims to analyze the relationship between discipline, physical literacy, and exercise habits with the mastery of Physical Education, Sports, and Health (PJOK) material among prospective teacher students. This quantitative correlational study involved 100 students from the Elementary School Physical Education Study Program (PJSD) at UNY, selected using a saturated sampling technique. Data were collected using questionnaires and tests, then analyzed using Pearson correlation and multiple regression techniques. The results showed significant positive relationships between discipline ($r=0.428$), physical literacy ($r=0.440$), and exercise habits ($r=0.331$) with the mastery of PJOK material. Simultaneously, these three variables had a significant effect on material mastery ($F=12.420$; $p<0.05$). It is concluded that discipline, physical literacy, and exercise habits are important factors contributing to the academic competence of prospective PJOK teachers. These findings imply the importance of integrating character development, physical literacy, and active living habits into teacher education curricula to enhance the quality of learning material mastery.

KEYWORDS: Discipline, Physical Literacy, Exercise Habits, PJOK Subject Mastery, PJSD Students.

I. INTRODUCTION

The quality of basic education is highly dependent on teacher competence, including in Physical Education, Sports, and Health (PJOK) (Casey & MacPhail, 2021). Prospective PJOK teachers are required not only to master the material but also to be role models of character and healthy lifestyles (Whitehead, 2020). However, mastery of PJOK material among prospective teacher students remains a challenge (Magdalena et al., 2021). Previous studies have focused more on cognitive and pedagogical factors (Kunter et al., 2019), while integrative studies on the role of discipline character, physical literacy, and exercise habits are still limited.

Physical literacy, as a multidimensional construct that includes knowledge, skills, and motivation for active living, has the potential to improve learning readiness (Cairney et al., 2022; Chen & Sun, 2021). Similarly, exercise habits can improve cognitive functions relevant to mastery of material (Donnelly et al., 2019). Meanwhile, disciplinary character is the foundation for academic consistency and responsibility (Lickona, 2013). The gap in this research lies in the absence of studies that simultaneously integrate these three factors to predict the mastery of material by prospective PJOK teachers. Therefore, this study aims to analyze the relationship and joint contribution of disciplinary character, physical literacy, and exercise habits to the mastery of PJOK material by students.

Discipline is defined as consistency in behavior in complying with rules and completing academic responsibilities with internal awareness (Lickona, 2013). In personality theory, the dimension of conscientiousness, which is closely related to discipline, is a strong predictor of academic achievement (McGrath et al., 2020). For prospective teachers, discipline underpins the development of professional competence through perseverance in learning (Richards & Wilson, 2019).

Physical literacy goes beyond motor skills, encompassing motivation, confidence, knowledge, and understanding to live an active life (Whitehead, 2020). This concept is believed to contribute to a more comprehensive understanding of the philosophy and methodology of physical education (Chen et al., 2023).

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Regular exercise habits are associated with improved cognitive function, memory, and concentration through physiological mechanisms such as increased blood flow and neurogenesis in the brain (Rodriguez-Ayllon et al., 2019). For students, this supports optimal mental conditions for learning.

Although the three constructs have been studied partially, their integration into a single model for prospective physical education teachers has not been widely studied. Studies such as Kalaja et al. (2019) examine physical activity habits, while character studies are more common in education. This research framework views mastery of physical education material as a result that is jointly influenced by these three variables.

II. MATERIAL AND METHODS

This study used a quantitative correlational design. The population consisted of all PJSD UNY students enrolled in 2023 (N=192). The sample was taken using saturated sampling technique, with a final sample size of 100 students (Selviana et al., 2024).

Data were collected using a Likert scale instrument and objective tests. The Discipline Character Scale (20 items, $\alpha=.88$), Physical Literacy (20 items, $\alpha=.89$), and Exercise Habits (20 items, $\alpha=.88$) were tested for content validity using the Aiken Index (>0.80) and reliability using Cronbach's Alpha (Budiastuti & Bandur, 2018). Mastery of the material was measured using a multiple-choice test validated by experts.

Data were analyzed using SPSS 31. After prerequisite tests (normality, linearity, classical assumptions), partial relationship hypotheses were tested using Pearson's correlation. Simultaneous contribution hypotheses were tested using multiple linear regression at a significance level of $\alpha=0.05$ (Hair et al., 2019).

III. RESULTS AND DISCUSSION

This study aims to evaluate the relationship between the variables of discipline, physical literacy, and exercise habits on academic mastery levels. Quantitative findings from descriptive and inferential statistics provide a comprehensive picture of how these three variables interact and contribute to academic achievement.

Descriptively, the three independent variables show very high average scores. Discipline scored a strong average ($M = 81.41$), indicating a high level of obedience, orderliness, and academic responsibility among respondents. Exercise Habits had the highest average score ($M = 81.55$), indicating that physical activity is a significant part of their routine. Physical Literacy was also at a high level ($M = 80.78$), reflecting good understanding, motivation, and motor skills. In contrast, Mastery of Material showed a much lower average ($M = 51.53$), revealing a gap between physical capacity and character and academic achievement. This gap confirms the challenge of converting non-cognitive strengths into optimal academic performance.

Correlation analysis shows a positive and significant relationship between the three independent variables and Mastery of Material. Discipline correlates positively and significantly with Mastery of Material ($r = .428$, $p < .01$), indicating that students with higher levels of discipline tend to master the material better. Physical Literacy shows the strongest correlation ($r = .440$, $p < .01$), indicating that a comprehensive understanding of movement, health, and physical motivation plays an important role in improving academic achievement. Exercise Habits also had a significant correlation ($r = .331$, $p < .01$), although its contribution was statistically lower than the other two variables. These findings emphasize the importance of non-cognitive aspects in supporting academic success.

The results of the multiple regression test reinforce these findings. The regression model shows very strong significance ($F = 12.420$, $p < .001$), with an R^2 value of .400, which means that 40% of the variance in Mastery of Material can be explained by the three independent variables tested. The resulting regression equation is:

$$Y = 31.096 + 0.422X_1 + 0.134X_2 + 0.065X_3$$

where Y is Mastery of Material, X_1 is Discipline Character, X_2 is Physical Literacy, and X_3 is Exercise Habits. This model illustrates that an increase in the independent variables has the potential to increase academic achievement, albeit with different predictive powers.

The partial contribution of each variable shows that only Discipline has a uniquely significant effect on Mastery of Material ($\beta = .508$, $p < .001$). This means that when the three variables are tested simultaneously, discipline emerges as the most decisive predictor. Although Physical Literacy and Exercise Habits are significantly correlated bivariate, their contributions become insignificant in multiple regression, most likely due to variance overlap or collinearity. These findings can also be interpreted as meaning that the effects of physical literacy and exercise habits are largely absorbed by the central role of discipline in the context of academic achievement.

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The results of this study support Lickona's (2013) thinking, which emphasizes the value of discipline as the core of character formation and a prerequisite for academic success. The relationship between physical literacy and academic achievement is in line with the findings of Chen et al. (2023), which show that physical literacy contributes to the ability to understand more complex sports concepts. Furthermore, the phenomenon of overlapping variables of exercise habits and physical literacy is in line with the study by Cairney et al. (2022), which explains that physical literacy integrates knowledge, motivation, and active behavior holistically.

These findings have important implications for curriculum development and teacher training. Physical education teacher education programs need to place the development of discipline as a key foundation. Furthermore, physical literacy must be continuously developed in a structured manner due to its role as an important component that supports the learning process and academic achievement. The integration of character building, physical literacy development, and improvement in subject mastery is a comprehensive strategy that can strengthen students' competencies as a whole.

IV. CONCLUSIONS

This study concludes that discipline, physical literacy, and exercise habits have a significant positive relationship with prospective teachers' mastery of physical education material. Together, these three factors explain 40% of the variance in material mastery, with discipline being the strongest contributor. The implication is that teacher education programs for prospective PJOK teachers need to adopt a holistic approach that simultaneously builds academic discipline, improves physical literacy, and encourages an active lifestyle. For future research, it is recommended to replicate this study with a larger sample from various teacher training institutions and develop an experimental design to test interventions based on these findings.

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