



# DO TEACHER COMPETENCE, LEARNING ENVIRONMENT, AND ACADEMIC STRESS SIGNIFICANTLY INFLUENCE STUDENT LEARNING OUTCOMES IN ISLAMIC JUNIOR HIGH SCHOOLS?

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## Article History

Received : 30/04/2025

Revised : 20/06/2025

Accepted : 15/07/2025

## Keywords:

Teacher competence,  
Learning environment,  
Academic stress,  
Student learning.

**Abstract.** This study aims to examine the significant influence of teacher competence, the learning environment, and academic stress on the learning outcomes of students at MTs Bi'ul Ulum, Gemurung, Gedangan, Sidoarjo. A quantitative survey method was employed with a population of 115 students, all of whom were included as research subjects using a total sampling technique. The data were analyzed using multiple regression analysis. The findings revealed that teacher competence has a significant positive effect on students' learning outcomes, the learning environment showed no significant effect, while academic stress had a significant influence on learning outcomes at MTs Bi'ul Ulum. These results imply that the school should improve teacher competence not only through technical training but also by applying humanistic methods like storytelling to enhance emotional engagement. While the learning environment showed no significant effect, fostering a positive atmosphere and managing academic stress through Islamic values such as ikhtiar and tawakkal remain essential to support motivation and learning outcomes. The findings of this study highlight academic stress as the most dominant factor, which is reconceptualised not just as a negative burden but as a source of positive motivation (eustress). The study provides a new perspective by viewing academic stress as motivation with spiritual value and in the learning process. This study explores how teacher competence, learning environment and academic stress affect student learning outcomes in Islamic junior high schools. This is a new area of research. The study provides new insights for the development of educational strategies in Islamic schools.

**How to Cite:** Bayhaqi, H. N., & Darmawan, D. (2025). DO TEACHER COMPETENCE, LEARNING ENVIRONMENT, AND ACADEMIC STRESS SIGNIFICANTLY INFLUENCE STUDENT LEARNING OUTCOMES IN ISLAMIC JUNIOR HIGH SCHOOLS? *Prima Magistra: Jurnal Ilmiah Kependidikan*, 6(3), 396-412. <https://doi.org/10.37478/jpm.v6i3.5625>

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## Publisher:

Program Studi PGSD Universitas Flores. Jln. Samratulangi, Kelurahan Paupire, Ende, Flores.

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## INTRODUCTION

Human life is highly dependent on education because education is a strategic means to improve the quality of human resources. In addition, the level of progress of a country depends on the quality of its education (Goczek et al., 2021). The purpose of education is to create superior, competitive, and faithful human beings who are reflected in learning outcomes through the learning process at home, school, and society (Ima et al., 2023). Peace and prosperity can be achieved by the nation through education. Education can create mentally and physically strong humans. Conversely, the country will be underdeveloped in all respects if the education system is stagnant. Therefore, efforts to improve the quality of education must continue to be pursued.

Efforts to improve the quality of education are inseparable from the success of the learning process, which, if done well, will yield optimal learning outcomes (Lumbantoroun & Anggresta, 2023). Learning outcomes are a highly researched issue in many countries besides Indonesia, such as China, India, and Germany (Lu et al., 2014; Fauth et al., 2019). This is because learning outcomes are the main indicators in assessing the effectiveness of the education system and the policies implemented in the learning process (Rao, 2020). As seen in China, the emphasis on strict education and high discipline has produced students with high academic results, but has led to the emergence of academic stress problems followed by a decline in students' learning outcomes (Liu et al., 2018). In India, the disparity in the quality of education between urban and rural areas causes many students to fail to achieve basic competencies despite having undergone formal education (Aneesh et al., 2024). In Germany, a

more flexible and inclusive education system strives to create a balance between academic quality and student well-being (Lindacher, 2025). Meanwhile, in Indonesia, a common issue faced is the low academic performance of students, influenced by various factors including disparities in teacher quality, suboptimal learning environments, and high academic pressure on students (Pratama et al., 2023). Therefore, learning outcomes remain an interesting topic and need to be researched concerning various issues to this day in different countries, especially for educational institutions in Indonesia in conducting the learning process.

Madrasah Tsanawiyah Bi'rul Ulum Gemurung Gedangan Sidoarjo is a madrasah that is undergoing a development process in terms of quality and quantity (Hariadi & Sodig, 2022). As a madrasah that was established in 1963, this madrasah is quite historic. However, the age of its establishment does not guarantee that the madrasah continues to experience significant improvements in quality and quantity. Significant improvements began to be recognised and stated by Hariadi and Sodig (2022) who stated the improvement in the quality of education that was being experienced and began to be continuously pursued by MTs Bi'rul Ulum. The improvement of MTs Bi'rul Ulum including academic and non-academic fields is a proof of commitment to continuously strive to improve the quality of education which includes curriculum improvement, teacher training, and adequate supporting facilities. Through careful attention to students' individual needs and the application of innovative, developmentally orientated learning methods, the school has endeavoured to create a learning environment that motivates students to develop academically, socially and spiritually (Hariadi & Sodig, 2022). However, these efforts have not been successful in supporting students' learning outcomes, which is an indicator of the success of the learning process to improve the quality of education.

The quality of education in a school or educational institution can be seen from the learning outcomes of its students, which if good, then the quality of education in the school is good (Syaidah et al., 2018; Schoepp, 2019). As the end result of the learning process, learning outcomes will be reflected in changes and developments in students based on what has been learned, as well as a benchmark that reflects the extent of the achievement of learning in achieving educational goals (Owan et al., 2022). According to Pratama et al. (2023), the factors that influence a person's success in learning are divided into two, namely internal factors such as interest, motivation and stress, and external factors such as facilities, environment and teaching quality. There are at least several aspects involved in the learning process to produce satisfactory learning outcomes, namely teachers, learning environments, and facilities that can support learning (Titu et al., 2023). In this case, educators who are truly professional and competent are needed.

Teacher competence is one of the factors determining the success of a learning process and has been shown to affect the acquisition of student learning outcomes (Fauth et al., 2019; Firda & Khairat, 2023; Soro et al., 2024). As educators, teachers have an important role during the learning process, as well as external factors that contribute importantly to the achievement of student learning outcomes (Fauth et al., 2019). The competence and teaching quality of a teacher in interacting with students will have an impact on the acquisition of student learning outcomes (Moreira et al., 2023). A teacher's knowledge and beliefs as part of teacher competence not only concern the content of the knowledge itself, but also how the knowledge is delivered and taught in the classroom. Therefore, competent teachers are an absolute necessity for schools because teachers as educators are the second person for students whose position is irreplaceable by existing tools or technology (Uerz et al., 2018). Likewise, at MTs Bi'rul Ulum Gemurung, based on the findings of Hariadi and Sodig (2022), efforts related to improving the quality of teacher competence have been made through certification and the acquisition of professional degrees in order to improve the quality of learning carried out.

In addition to teacher competence, the student learning environment also plays an important role in achieving learning outcomes. The situation that exists when students play, hang out and interact with people around them, will be able to influence the learning process and the acquisition of student learning outcomes (Pratama & Ghofur, 2021; Pande & Cicilia, 2023). The school environment including facilities and infrastructure is very influential on

learning. Inadequate facilities can hinder the learning process, while a conducive and cheerful classroom atmosphere can increase students' focus and interest in learning to obtain maximum learning outcomes (Bonem et al., 2020). A good environment will have a positive impact while a poor environment will have a negative impact (Juita et al., 2025). Based on Hariadi and Sodig (2022), MTs Bi'rul ulum has also made efforts to improve supporting facilities, as well as the student learning environment aimed at improving the quality of education. However, until now, no reports have been found regarding whether the learning environment has an effect on the learning outcomes of students in this school. Considering that learning outcomes are very important in efforts to improve the quality of education in an educational institution.

Academic stress is also a factor that can affect the acquisition of learning outcomes of a student. This is because the condition of students who experience academic stress certainly has an impact on the student's learning outcomes (Barseli et al., 2018; Morazes, 2016). High levels of academic stress can interfere with students' concentration and focus, and reduce their motivation to learn (Pascoe et al., 2020). In the long run, excessive academic stress can have a negative impact on students' academic achievement (Singh et al., 2024). Symptoms of academic stress are certainly caused by several factors. Alsultan et al. (2023) mentioned that academic stress comes from several factors, namely: Teachers, learning outcomes, exams, group study, peers, time management, and individual actions. Good stress control is an effort to improve the acquisition of learning outcomes, while high academic stress has the potential to cause low academic success and even drop out of school (Freire et al., 2016). Therefore, it is important to understand the effect of academic stress in an effort to improve student learning outcomes in order to improve the quality of education at MTs Bi'rul Ulum.

Various efforts undertaken by MTs Bi'rul Ulum are a form of the school's commitment to providing quality, competitive, and relevant education to the challenges of the times that future generations will face. The main issue in this research is the absence of concrete reports showing whether the efforts to improve teacher competence and learning facilities at MTs Bi'rul Ulum truly contribute to the enhancement of student learning outcomes, whereas student learning outcomes are an important indicator in assessing the success of the teaching and learning process and the achievement of educational goals in an educational institution. Therefore, this research is important as it examines the factors influencing student learning outcomes at MTs Bi'rul Ulum in relation to ongoing efforts to improve educational quality. The purpose of this study is to determine and analyze the influence of teacher competence, learning environment, and academic stress on student learning outcomes at MTs Bi'rul Ulum. Three hypotheses are proposed: (1) teacher competence significantly affects student learning outcomes; (2) the learning environment significantly affects student learning outcomes; and (3) academic stress significantly affects student learning outcomes.

While many prior studies have explored the impact of teacher competence (Fauth et al., 2019; Syaidah et al., 2018) or the learning environment (Suminar, 2018; Bonem et al., 2020) on student learning outcomes, these were often examined separately and rarely in the context of Islamic schools. Similarly, research on academic stress has typically been conducted in general or secular educational settings (Barseli et al., 2018; Pascoe et al., 2020), without considering the role of religious values in student resilience. This study addresses these gaps by simultaneously investigating the influence of teacher competence, learning environment, and academic stress in a madrasah context. The novelty lies in integrating these three dimensions within the unique socio-religious framework of MTs Bi'rul Ulum, thereby offering new insights into how educational strategies in Islamic schools can be optimized to support both academic and spiritual development.

## RESEARCH METHODS

This research employed a quantitative survey design, using numerical data to explain empirical phenomena, which were then analyzed through statistical methods to test hypotheses, explain relationships, predict variable influences, and build generalizations (Barth & Blasius, 2021). The study involved all 115 students of MTs Bi'rul Ulum Gemurung, Gedangan,



Sidoarjo, in the 2024/2025 academic year as respondents. A total sampling technique was applied, considering the manageable population size and its alignment with the study's objectives (Babbie, 2020). The participants were distributed across six classes: VII A (19 students), VII B (17), VIII A (15), VIII B (17), IX A (23), and IX B (24).

This study employed a questionnaire to measure four variables: learning outcomes (dependent) and teacher competence, learning environment, and academic stress (independent). Data were collected through student responses (primary) and school documents and literature (secondary). Each variable indicator was developed into two statement items using an eight-point Likert scale. According to [Xu and Leung \(2018\)](#), using more response points, such as 8 or 11, improves reliability and validity by allowing respondents to express their views more precisely and reducing distortion from limited choices.

The dependent variable studied in the research was learning outcomes. Learning outcomes were explained as the achievement of a learning and teaching interaction process that included students' affective, cognitive, and psychomotor skills ([Owan et al., 2022](#); [Titu et al., 2023](#)). According to [Rao et al. \(2020\)](#), there are classifications of learning outcomes into three domains, namely the cognitive, affective, and psychomotor domains, which are used as indicators to measure learning outcome variables. Furthermore, the first independent variable of the study was teacher competence, which was the ability to transfer knowledge and skills and apply the values of knowledge, life experience, expertise, and personality that included individual, collective, organizational, and professionalism aspects ([Ihsani, 2019](#); [Lumbantoroun & Anggresta, 2023](#)). According to [Kim and Kim \(2016\)](#), teacher competence is measured through seven indicators, namely: 1) Understanding of the subject matter; 2) Teaching methods; 3) Encouragement for student participation; 4) Understanding of learning; 5) Teaching conditioning; 6) Learning evaluation; 7) Individual qualifications.

The learning environment, as the second independent variable, was a condition or situation that existed around students ([Pratama & Ghofur, 2021](#); [Pande & Cicilia, 2023](#)). There were nine indicators for measuring learning environment variables, including: 1) Student closeness to the teacher; 2) Relationships with fellow students; 3) Learning methods and learning tools; 4) Parental education; 5) Family circumstances; 6) Parental attention; 7) Children's activities carried out in the community; 8) Social interaction in society; 9) The existing lifestyle of society and mass media ([Slameto, 2010](#)).

The third independent variable was academic stress. Academic stress was essentially a psychological symptom in a person when they felt unbalanced between demands and abilities. Academic demands, such as the perception of the amount of material to be learned and the lack of time to develop it, created psychological pressure, which was referred to as academic stress ([Barseli et al., 2018](#); [Hakim et al., 2022](#)). According to [Sun et al. \(2013\)](#), there are five indicators used to measure the academic stress scale, namely: 1) Pressure from studies; 2) Academic workload; 3) Worry about poor grades; 4) Pressure arising from unmet academic expectations; 5) Learning despair.

This study was conducted over one month, in October 2024, covering observation, data collection on October 9 at MTs Bi'ru'ul Ulum Gemurung, and report writing. Questionnaires were administered to all students in one day under supervision. After data collection, validity and reliability tests were conducted, followed by classical assumption tests and multiple regression analysis using SPSS 26 to examine the influence of independent variables on learning outcomes. Data validity was assessed with Corrected Item-Total Correlation, reliability with Cronbach's Alpha, and assumptions tested through normality (P-P Plot), heteroscedasticity (scatterplot), multicollinearity, and autocorrelation (Durbin-Watson). Regression analysis results included t-tests, an F-test, and the coefficient of determination.

## RESULTS AND DISCUSSION

Before conducting inferential analysis, descriptive statistics were first presented for each research variable. This descriptive analysis aims to provide a general overview of the respondents' response tendencies regarding the variables studied, namely teacher competence,



learning environment, academic stress, and student learning outcomes. The descriptive data are presented in the form of frequency distributions and percentages based on the questionnaire responses collected from the participants.

**Table 1.** Description of Teacher Competence

| Answer Description      | Total | Percentage |
|-------------------------|-------|------------|
| Personality Competence  | 44    | 38,3%      |
| Pedagogic Competence    | 3     | 2,6%       |
| Professional Competence | 23    | 20%        |
| Social Competence       | 45    | 39,1%      |

Source: Results of SPSS 26

**Table 1** shows the distribution of responses from MTs Bi'rul Ulum students to closed-ended statements highlighting the main aspects of teacher competence, in the form of multiple choice questions. The results show that social competence is the main concern. Most MTs Bi'rul Ulum students consider social competence and personality to be the most important aspects in assessing teacher quality. This indicates that students prioritise a teacher's ability to establish good communication, create a comfortable learning environment, and demonstrate positive attitudes and character during the learning process. Meanwhile, professional and pedagogical competencies are less prioritised in students' perceptions, possibly because these aspects are technical in nature and not directly felt emotionally in daily interactions. In the context of madrasah education, which institutionally also plays a role in character building and moral development, teachers are not only seen as transmitters of knowledge but also as role models in behavior. Students are more likely to respect and accept teachers who demonstrate empathy, friendliness, effective communication, and the ability to create a comfortable and supportive learning environment. Values such as discipline, sincerity, and the ability to show respect toward students are considered essential in shaping a conducive classroom climate.

These findings suggest that teacher competency development programs in madrasahs should not focus solely on subject mastery and teaching methods but also emphasize the enhancement of social and personal qualities. Teachers who demonstrate openness, consistency, and empathy play a vital role in fostering a more effective and comfortable learning process for students. Within the madrasah setting, teachers are also positioned as role models whom students emulate, particularly in how they interact, behave, and handle classroom challenges. Therefore, professional development efforts should include training that emphasizes exemplary conduct in real classroom settings.

**Table 2.** Description of Learning Environment Variables

| Answer Description                  | Total | Percentage |
|-------------------------------------|-------|------------|
| Family Environment                  | 11    | 9,6%       |
| Community or Friendship Environment | 32    | 27,8%      |
| School Environment                  | 72    | 62,6%      |

Source: Results of SPSS 26

**Table 2** presents students' responses regarding the environment they consider most conducive to learning. The majority of students at MTs Bi'rul Ulum identified the school environment as the setting that most influences their academic development. This indicates a strong dependence on formal structures such as the presence of teachers, scheduled routines, and access to learning materials. These findings suggest that students do not only view school as a place to receive knowledge, but also as a central environment for educational engagement. Conversely, the lower number of responses for family and community environments may reflect limited academic stimulation or a lack of structured support outside the school environment.

Students' preference for the school environment is likely driven by the intensity and consistency of the academic interactions it offers. School is not just a place to deliver the curriculum, but also a social space where students develop ways of thinking, behaving, and internalizing the learning process. In the context of madrasahs, where religious and moral values are integrated with formal education, the role of teachers as spiritual guides and teaching facilitators further strengthens students' attachment to the school. Structured schedules,

character-oriented teaching, and academic expectations often create positive academic pressure that encourages active student participation. On the other hand, the weaker role of family and community as learning environments may be related to limited educational resources, lack of parental involvement, or peer influences that are not always aligned with academic goals.

These findings indicate that although schools especially within the framework of madrasahs play a central role in shaping learning outcomes, external environments such as homes and communities must also be involved. Strengthening collaboration between schools, families, and communities is crucial for building a more holistic and supportive learning ecosystem. Madrasah has a unique position to initiate programs that encourage parental involvement, promote educational values at home, and foster peer support through structured extracurricular activities. By extending the influence of learning beyond the classroom, madrasahs can ensure that students receive consistent academic reinforcement in all aspects of their lives.

**Table 3.** Description of Academic Stress Variables

| Answer Description                                            | Total | Percentage |
|---------------------------------------------------------------|-------|------------|
| Reality related to education that does not match expectations | 40    | 34,8%      |
| Difficult School Assignments                                  | 51    | 44,3%      |
| Parental Demands related to Grade Targets                     | 24    | 20,9%      |

Source: Results of SPSS 26

The description of the academic stress variable was taken with a closed-ended question that asked about what factors were most stressful in the learning process. The distribution of students' answers about the academic stress variable in [Table 3](#) shows that the majority of students feel stressed or depressed due to difficult school assignments choosing it as the main factor. Student responses related to academic stress indicate that difficult school assignments are the most frequently mentioned source of pressure, followed by educational experiences that do not meet expectations, and parental demands regarding academic performance. This finding shows that students at MTs Bi'ul Ulum experience the most stress from the academic workload they face on a daily basis. The difficulty level of assignments and the limited time to complete them may lead to emotional exhaustion and cognitive overload. In addition, when students feel that their learning experience does not match what they expect, such as the teaching method, classroom atmosphere, or academic progress, it may generate disappointment and internal pressure. Parental expectations about grades, although mentioned less frequently, still represent a source of external stress that influences students' mental readiness to learn.

In the context of madrasah education, academic stress arises not only from schoolwork but also from students' internalized responsibility to achieve both academic and religious goals. Madrasahs emphasize both intellectual mastery and moral development, which can increase the psychological demands placed on students. The challenge of meeting high expectations in both areas may be intensified by limited access to emotional support, counseling services, or time management skills. In addition, cultural values that place strong emphasis on academic achievement and religious discipline may unintentionally add to the stress experienced by students, especially when performance is seen as a reflection of personal worth. These findings underline the need for madrasahs to integrate academic stress management into their learning environment. Schools should create support mechanisms such as regular counseling sessions, stress education programs, and teacher training focused on student well-being. Teachers need to be sensitive to signs of emotional fatigue and provide appropriate guidance when needed. By building a learning climate that values academic excellence along with psychological resilience, madrasahs can help students remain motivated and productive while maintaining their emotional health.

The distribution of students' answers in [Table 4](#) about the most influential factors in obtaining good learning outcomes, shows that most students consider teachers or instructors as the main factor. The majority of students at MTs Bi'ul Ulum perceive teachers as the primary factor influencing their learning outcomes. This addresses the question of what students consider most impactful in academic achievement. They view teachers as playing a central role

in the learning process through the delivery of material, provision of guidance, and creation of a supportive classroom atmosphere. This finding reinforces the understanding that academic performance is not solely determined by students' cognitive abilities, but also heavily depends on who facilitates the learning process—namely, the teacher. High levels of trust in teachers reflect their position as key actors in achieving educational success within the madrasah setting.

**Table 4.** Description of Learning Outcome Variables

| Answer Description     | Total | Percentage |
|------------------------|-------|------------|
| Teacher or Instructor  | 60    | 52,2%      |
| Family                 | 26    | 22,6%      |
| Friendship Environment | 29    | 25,2%      |

Source: Results of SPSS 26

Students' tendency to regard teachers as the most influential factor can be understood through the distinctive interaction patterns typical of madrasah environments. Teachers in madrasahs are not only responsible for teaching but also serve as role models in terms of morality and spirituality. The emotional and religious closeness between teachers and students strengthens the perception that teachers impact both intellectual and moral development. Although family and peers also contribute to students' academic outcomes, students appear to experience the teacher's influence more directly due to their active involvement in daily learning activities. The sustained and intensive interactions between teachers and students in madrasahs explain why teachers are perceived as the dominant factor shaping academic success.

These findings offer insight into how future strategies to improve learning outcomes can be designed. Madrasahs should strengthen the role of teachers through professional development programs that emphasize not only subject mastery but also communication skills, empathy, and personalized approaches to student guidance. In addition, empowering other learning environments such as family and peer groups can be achieved by establishing school–parent partnerships and fostering positive peer learning communities. Such strategies are essential for building an integrated learning environment that simultaneously supports students' academic growth, character development, and spiritual formation across various aspects of their lives. After describing each variable, the questionnaire data was analysed. The first test carried out to be able to do multiple regression analysis is the data quality test, namely validity and reliability. The decision criteria in the validity test use a CITC value that must exceed 0.3 to be declared valid (Field, 2018). In addition, the Cronbach's Alpha value must be greater than 0.6 for reliability (Hair et al., 2014).

The teacher competence variable comprised 14 items, the learning environment 18 items, academic stress 10 items, and learning outcomes 6 items. It is noteworthy that all of these variables exceeded the validity threshold. With regard to the reliability of the study, each variable exhibited strong internal consistency, as evidenced by Cronbach's Alpha values of 0.900 for teacher competence, 0.923 for the learning environment, 0.793 for academic stress, and 0.868 for learning outcomes. Given that all values exceed the minimum reliability standard of 0.60, it can be concluded that the instruments utilised in this study are both valid and reliable for further analysis.

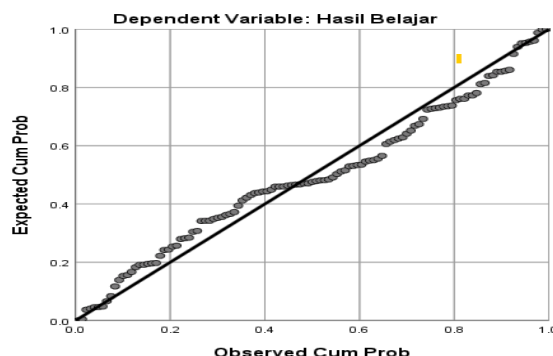


**Figure 1.** Normality Results (Source: Results of SPSS 26)

The test results in Figure 1 show that the points spread around and follow the line. These results are the results of testing the normality of data using the P-P plot graph. Based on these results, the data is declared normally distributed.

**Table 5.** Multicollinearity Results

| Variable             | VIF   | Tolerancia |
|----------------------|-------|------------|
| Teacher Competence   | 2,479 | 0,403      |
| Learning Environment | 2,188 | 0,457      |
| Academic Stress      | 1,847 | 0,541      |

Source: Results of SPSS 26

A variable is considered to have no multicollinearity issues if the VIF value is no more than 10 and the tolerance value is at least 0.1. Based on Table 5, there are no signs of multicollinearity in this study.

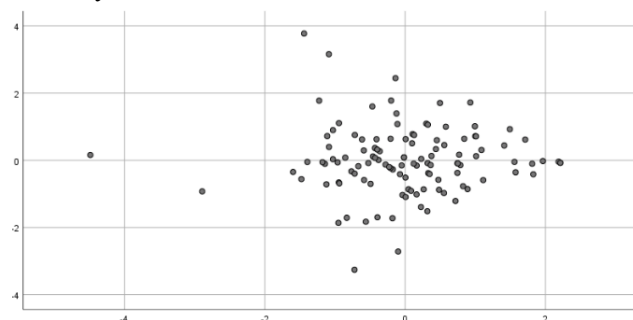


**Figure 2.** Scatterplot Results (Source: Results of SPSS 26)

Data Processing Results Scatterplot testing with a graph is used to meet the heteroscedasticity assumption test. Figure 2 shows that the data distribution is spread out, not forming any clear patterns or waves. The points are seen scattered above and below the number 0 on the Y-axis, and they do not form a clear pattern or wave. Based on these results, it can be stated that there are no signs of heteroscedasticity.

After meeting the data quality tests and classical assumptions, multiple regression is conducted to determine the level of influence between the independent and dependent variables of the study. The level of influence of the variables of teacher competence, learning environment, and academic stress on learning outcomes can be determined by predicting learning outcomes based on variations in teacher competence, learning environment, and academic stress.

**Table 6.** t-Test

| Model                | Unstandardized Coefficients |            | Standardized Coefficients |  | t     | Sig. |
|----------------------|-----------------------------|------------|---------------------------|--|-------|------|
|                      | B                           | Std. Error | Beta                      |  |       |      |
| 1 (Constant)         | -2.384                      | 2.861      |                           |  | -.833 | .406 |
| Teacher Competence   | .160                        | .044       | .321                      |  | 3.636 | .000 |
| Learning Environment | .059                        | .032       | .152                      |  | 1.832 | .070 |
| Academic Stress      | .302                        | .052       | .439                      |  | 5.771 | .000 |

Source: Results of SPSS 26

Table 6 presents the t-test results. The criteria according to Hair et al. (2016) is significance  $<0.05$ . The variables of teacher competence and academic stress found a significance of 0.000. The results indicate that teacher competence and academic stress have a significant impact on learning outcomes. Meanwhile, the learning environment obtained a significance level of 0.070, which means its influence on learning outcomes is not significant.

The results of the regression equation presented in Table 6 yield the value  $Y = -2.384 + 0.160X_1 + 0.059X_2 + 0.302X_3$ . The obtained constant of -2.384 indicates that the contribution of the dependent variable in this study is highly needed for the independent variables in the research. The regression equation is interpreted such that if teacher competence ( $X_1$ ), learning

environment (X2), and academic stress (X3) are all assumed to be 0, then the learning outcomes are predicted to be -2.384.

The regression coefficient of the teacher competence variable (X1) is 0.160. It can be interpreted that if the value of the teacher competence variable (X1) increases by one unit, it will cause an increase of 0.160 in the value of the learning outcome variable (Y). The regression coefficient for the learning environment (X2) is 0.059, meaning that if the learning environment variable (X2) increases by one unit, it will cause an increase of 0.059. The regression coefficient of the study stress variable (X3) is 0.302, which means that if the value of the study stress variable (X3) increases by one unit, it will cause an increase in learning outcomes by 0.160.

**Table 7.** F-Test

|   | Model      | Sum of Squares | df  | Mean Square | F      | Sig.  |
|---|------------|----------------|-----|-------------|--------|-------|
| 1 | Regression | 2560.640       | 3   | 853.547     | 69.283 | .000b |
|   | Residual   | 1367.481       | 111 | 12.320      |        |       |
|   | Total      | 3928.122       | 114 |             |        |       |

Source: Results of SPSS 26

Based on [Table 7](#), the significance value obtained is 0.000. The value is less than 0.05 ([Montgomery et al., 2021](#)). The acquisition of that value indicates that all independent variables in this study simultaneously have a positive and significant effect on the dependent variable, which is learning outcomes.

**Table 8.** Coefficient of Determination

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .807 <sup>a</sup> | .652     | .642              | 3.510                      |

Source: Results of SPSS 26

[Table 8](#) presents that the obtained Adjusted R Square value is 0.642. Based on these findings, it can be interpreted that the contribution of the variables of teacher competence, learning environment, and academic stress is 64.2% towards the variable of student learning outcomes. The remaining 35.8% is influenced by variables other than those included in the regression model conducted by the researcher.

### **The Influence of Teacher Competence on the Learning Outcomes of Students at MTs Bi'rul Ulum Gemurung**

Based on the regression results, teacher competence has a significant positive effect on learning outcomes. The testing of the first hypothesis that student learning outcomes are positively and significantly influenced by teacher competence at MTs Bi'rul Ulum was accepted. The acceptance of the first hypothesis confirms that the higher the teacher's competence, the higher the students' learning outcomes. The findings of this study are consistent with the research of [Syaidah et al. \(2018\)](#), [Prihantoro et al. \(2019\)](#), [Fauth et al. \(2019\)](#), [Titu et al. \(2023\)](#), [Soro et al. \(2024\)](#), which found that teacher competence has a significant positive effect on student learning outcomes.

According to [Lombardi et al. \(2021\)](#), learning is not just a process of acquiring knowledge, but an active process of constructing knowledge, while teaching is an effort to support that process, not just delivering it. Furthermore, [Efgivia et al. \(2021\)](#) also stated that learning is a process that requires student activity in building understanding, which means deriving meaning and lessons from every event and experience, one of which is their interaction with the teacher. Furthermore, [Park & Zheng \(2025\)](#) stated that the role of the teacher is as a facilitator who helps create conditions, interactions, and means so that the process of students building knowledge runs effectively. As educators, teachers play an important role during the learning process, serving as an external factor that significantly contributes to students' learning outcomes ([Soro et al., 2024](#)). The quality of teaching includes management, understanding of the material, and interaction between teachers and students as part of teacher competence, which is important for the formation of student learning outcomes ([Fauth et al., 2019](#)).

The reason why teacher competence significantly affects student learning outcomes can be understood contextually by examining how students perceive the teacher's role beyond

technical instruction. In the madrasah context, students do not only rely on teachers for academic content but also for guidance, discipline, and personal example. The descriptive findings reinforce this point, showing that students at MTs Bi'ru'ul Ulum place greater importance on teachers' social and personality competencies than on pedagogical and professional skills. This suggests that students are more responsive to teachers who demonstrate empathy, good communication, and a consistent attitude, as these qualities help create a safe and motivating learning environment. What makes this dynamic particularly important is the sustained, daily interaction between students and teachers in madrasah life, where the teacher often serves as both educator and moral figure. Therefore, when students feel emotionally connected and supported, they are more likely to engage, participate, and achieve better outcomes. This underlines the necessity for schools to pay close attention not only to the academic qualifications of their teachers but also to their interpersonal and character-related strengths.

The finding that teacher competence significantly influences student learning outcomes highlights the importance of improving teachers' technical, emotional, and interpersonal skills in the learning process. For MTs Bi'ru'ul Ulum, it is recommended that teachers undergo training to build closer relationships with students through humanistic approaches, such as providing informal counselling outside class hours, using positive affirmations and actively involving themselves in student activities. Learning strategies that consider students' emotional state, such as reflective exercises, storytelling and open discussions, can foster a sense of safety and strengthen the bond between students and teachers. Additionally, a reward and punishment system based on learning attitudes and participation could be implemented to encourage positive interactions. The school could also conduct monthly evaluation sessions based on student feedback to encourage teachers to reflect on how they can create a more supportive classroom environment. These efforts can improve the quality of interactions between teachers and students, leading to better learning outcomes in an atmosphere of empathy, trust and motivation.

This study is unique in its contextual application to Islamic junior high schools (madrasahs), where the role of teacher competence encompasses emotional, social and religious dimensions which are often overlooked in more general educational settings. Unlike previous studies, which have focused on pedagogical or professional skills, this research highlights the fact that students value their teachers' interpersonal qualities and moral character as key factors in their academic success. Emphasising social and personal competencies and supporting this with descriptive data reveals a deeper understanding of how teacher–student relationships shape learning outcomes. By analysing these dynamics within the madrasah context, the study sheds light on how teachers' roles, embedded in cultural norms, impact educational achievement. This provides a fresh perspective in the discourse on teacher competencies, particularly within religion-based education systems.

Although this study provides strong evidence of the influence of teacher competence on student learning outcomes, several limitations must be acknowledged. For example, the use of closed-ended questionnaires limits the depth of students' responses, particularly with regard to capturing nuanced perceptions of each competence dimension. Furthermore, the study only involved students as respondents, which could lead to a perception gap if not triangulated with the perspectives of teachers and administrators. Future research could adopt a mixed-methods approach involving interviews or classroom observations to validate the data and gain a more comprehensive understanding. Examining which specific aspects of teacher competence pedagogical, social, personality or professional have the strongest direct impact on student performance across different educational settings would also be beneficial.

### **The Influence of the Learning Environment on the Learning Outcomes of Students at MTs Bi'ru'ul Ulum Gemurung**

The regression results that have been presented and interpreted show that the influence of the learning environment on the learning outcomes of MTs Bi'ru'ul Ulum students is not significant and relatively low. The testing of the second hypothesis that learning outcomes are positively and significantly influenced by the learning environment was not proven for the



students of MTs Bi'ul Ulum Gemurung. The results obtained in this study differ from several previous studies such as [Lu et al. \(2014\)](#), [Suminar \(2018\)](#), [Inuen \(2020\)](#), [Pratama and Ghofur \(2021\)](#), [Pande and Cicilia \(2023\)](#), which state that the learning environment has a significant positive effect on learning outcomes. However, the results of this study are consistent with the research by [Mustofa \(2021\)](#), which found no significant influence of the learning environment on learning outcomes.

According to the constructivist principles by [Mayombe \(2020\)](#), [Efgivia et al. \(2021\)](#), [Lombardi et al. \(2021\)](#), in the learning process, the main emphasis is on the active role of students in constructing knowledge through internal interactions with the material and their own thinking processes, rather than solely on the external environment, ultimately resulting in the creation of new knowledge and skills. This principle aligns with the views of [Kilford et al. \(2016\)](#), who state that active interaction with the environment helps students acquire knowledge and values that change their attitudes, meaning cognitive development is influenced by social interaction with more competent individuals (teachers or peers), not just by the physical or external environment. Furthermore, [Mustofa \(2021\)](#) research states that the insignificant influence of the learning environment on learning outcomes is due to the surrounding environment not supporting students in being diligent in their studies. Students tend to use the environment only as a place to play, so most of their time is wasted and less beneficial for their learning outcomes. Thus, although the learning environment plays a role in providing support, the quality of learning outcomes depends more on how students can understand, process, and interpret the material and experiences in the environment to acquire new knowledge and skills, rather than merely on the influence of their environment.

When students do not consider the learning environment to be a primary factor in their academic success, this reflects a shift in focus from physical or social space to internal and interpersonal influences. It is evident from the response patterns exhibited that the learning environment is perceived to be a space for peer interaction and social engagement rather than a direct support system for learning activities. This phenomenon elucidates the rationale behind the notion that the mere existence of an environment does not inherently exert a direct influence on the outcomes of learning. The environment is not actively employed as a resource for learning; rather, it serves as a space for congregation and social interaction. Within the context of the madrasah, characterised by a teacher-centred learning process guided by religious values, students exhibit a greater tendency to rely on direct interaction with teachers as opposed to deriving academic benefit from their surroundings. This condition suggests that the impact of the learning environment does not lie in its existence alone, but in how students interpret, access, and activate that environment as part of their learning experience.

The absence of a significant impact of the learning environment on the learning outcomes of MTs Bi'ul Ulum students indicates that educational institution management should prioritise not only improving facilities but also actively promoting student engagement with their surroundings. Rather than perceiving the environment as a passive backdrop, it is imperative to motivate students to engage with it as an integral component of their learning process. Teachers have the capacity to initiate collaborative projects that utilise available spaces, such as peer-led discussions under school shelters or outdoor reflection sessions following religious activities. One efficacious yet cost-effective approach involves the integration of straightforward educational games such as Quizizz or Kahoot into lessons, with the objective of enhancing engagement and rendering classroom settings more interactive and student-centred. Furthermore, the involvement of parents in establishing a minimal yet consistent study space within the domestic environment has been demonstrated to facilitate a more seamless transition between academic and familial settings. Through these efforts, the learning environment can evolve into an active support system that reinforces student motivation and complements teacher instruction.

The novelty of this study lies in its contextual revelation that, within a madrasah setting, the learning environment is perceived more as a social space than an academic support system. Whilst a considerable body of previous research has already highlighted the positive impact of

environmental factors on academic performance, this research goes further by demonstrating how students prioritise teacher interaction over physical or social surroundings. This finding calls into question the general assumption that improved facilities or peer settings directly enhance learning outcomes. The present study focuses on student perceptions in a faith-based institution, thus offering a novel perspective on the need to redefine learning environments. This redefining should not only concern the structure of the environment, but also the extent to which students are guided to engage with it. This insight contributes to a more profound understanding of environmental roles in educational settings that are significantly influenced by religious and teacher-centred values.

Despite the fact that this study provides valuable contextual insights into students' perceptions of the learning environment, its limitations are evident in the utilisation of structured questionnaires and a single-perspective design that places exclusive emphasis on the viewpoint of students. These limitations may have resulted in a reduction of depth and balance in the interpretation. It is recommended that future research adopt a mixed-methods approach, incorporating the perspectives of teachers and parents in order to provide a more comprehensive picture. Exploration of the role of moderating variables, such as learning motivation, or the interaction of the learning environment with other factors in influencing academic outcomes, is recommended, particularly in environments with strong religious cultures and teacher-centred approaches.

### **The Influence of Academic Stress on the Learning Outcomes of Students at MTs Bi'ru' Ulum Gemurung**

The results show that academic stress has a significant positive impact on learning outcomes. The testing of the third hypothesis that the learning outcomes of MTs Bi'ru' Ulum students are positively and significantly influenced by academic stress is indeed true. The testing of the third hypothesis proves that learning outcomes improve along with good management of academic stress. The instrument for the academic stress variable in this study was constructed in the form of positive statements. Therefore, the research results indicate that students who can effectively manage academic stress will achieve higher learning outcomes. On the contrary, if academic stress increases without being managed well, students' learning outcomes tend to decline. These results reinforce the research of [Tetteh and Sarpong \(2015\)](#), [Barseli et al. \(2018\)](#), [Hakim et al. \(2022\)](#), [Helmahani and Biromo \(2022\)](#), [Gobena \(2024\)](#), which obtained similar findings. The regression equation found that academic stress has a greater impact on student learning outcomes compared to teacher competence and the learning environment at MTs Bi'ru' Ulum Gemurung.

These findings indicate that academic stress at certain levels, along with good management, can encourage students to achieve better learning outcomes at MTs Bi'ru' Ulum Gemurung. Conditions of academic stress that are not excessive tend to motivate students to be more focused, increase their learning efforts, and strive hard to meet academic demands. [Barseli et al. \(2018\)](#) state that stress is not always negative; rather, low-level academic stress becomes a challenge that motivates students to overcome it. Well-managed academic stress can serve as a positive drive (eustress) for students to achieve their learning targets, unlike excessive stress which can reduce performance ([Singh et al., 2024](#)). [Helmahani and Biromo \(2022\)](#) state that eustress can be a motivation to overcome learning problems so that a student can achieve good learning outcomes. This view is in line with constructivist theory, which emphasizes that optimal cognitive development occurs when individuals are faced with cognitive challenges that encourage them to understand and interpret knowledge ([Xu, 2019](#)). Active learning in problem-solving can strengthen their understanding, which, in the context of optimal academic stress, academic challenges become stimuli for students to process and comprehend the material independently.

The profound impact of academic stress on learning outcomes at MTs Bi'ru' Ulum can be comprehended by examining how students perceive and respond to academic pressure. In contrast to the prevailing perspective of stress as a detrimental burden, students appear to adopt an alternative viewpoint, perceiving it as a challenge that fosters discipline, focus, and goal-



orientation. The descriptive findings lend support to this interpretation, demonstrating that students generally associate academic stress with expectations, deadlines, and personal responsibility rather than fear or anxiety. This phenomenon may be influenced by the cultural and spiritual environment of the madrasah, where students are guided to perceive academic tasks as integral components of personal development and religious obligation. Within this paradigm, stress is transformed into a manageable source of pressure that assists students in regulating their behaviour and striving towards achievement. It is therefore the interpretation and transformation of stress into motivation that is of significance, rather than the absence of stress itself.

The finding that academic stress has a positive effect on learning outcomes suggests that schools should focus not on eliminating stress, but on managing it as a motivating force. At MTs Bi'rul Ulum, stress management can be integrated through brief yet consistent activities that promote time awareness, self-control, and emotional balance. It is imperative that educators possess the capacity to discern stress levels and adapt learning objectives to establish pragmatic and challenging targets that motivate student endeavour without engendering undue overwhelm. Spiritually grounded values from Islamic tasawuf, such as muraqabah (self-awareness), tawakkal (trust in God), tafakkur (reflection), and ikhtiar (diligent effort), have the potential to be incorporated into educational practice to assist students in managing academic pressure by fostering a sense of purpose and personal responsibility. Simple academic competitions or time-limited tasks with positive reinforcement can also serve as productive stressors that convert pressure into energy for achievement.

While this study provides valuable insight into the constructive role of academic stress, it is important to note that several limitations should be considered when interpreting the results. The study was constrained in its scope, as it exclusively sought to ascertain students' perceptions, thereby overlooking the insights of teachers and counsellors. This omission resulted in a deficiency in the study's comprehensive understanding of stress dynamics within the academic environment. It is recommended that future research adopt qualitative or mixed-method approaches in order to explore how different types of stress affect learning behaviour. It would also be beneficial to examine the moderating role of other psychological variables, such as learning motivation, self-efficacy, or religiosity, in shaping how students respond to academic challenges. The present study proposes that such research would enhance the existing discourse on eustress by identifying the personal and contextual factors that facilitate the transformation of pressure into academic growth.

## CONCLUSIONS AND SUGGESTIONS

The findings of this study indicate that, among the three variables examined, teacher competence, learning environment, and academic stress, academic stress emerged as the most dominant factor influencing student learning outcomes at MTs Bi'rul Ulum Gemurung. Teacher competence also demonstrated a significant positive impact, thus affirming the critical role of teacher quality in facilitating effective learning. Conversely, the learning environment did not demonstrate a statistically significant influence, suggesting that students in this madrasah context place greater reliance on internal and interpersonal supports than on their physical or social surroundings. These findings provide support for and extend constructivist learning theories by demonstrating that learning is not only shaped by external factors but also by students' active interpretation of challenges, particularly stress. The results of the present study appear to align with the academic stress theory that distinguishes between distress and eustress, thereby reinforcing the notion that moderate, well-managed stress can serve as a motivating force to enhance focus and academic resilience. The finding that the impact of the learning environment is minimal is at odds with previous research, but does reveal a context-specific reality. In teacher-centred and religious learning environments, such as madrasah, teacher presence and personal discipline exert a more significant influence than structural or peer-based influences.



The practical implications of this research extend beyond the scope of simple recommendations. It is asserted that educational institutions should adopt holistic and culturally relevant strategies for the management of academic stress and the enhancement of teaching quality. For instance, the integration of Islamic values such as *ikhtiar*, *muraqabah*, and *tawakkul* into stress management and instructional practices has the potential to foster an educational environment conducive to both academic success and spiritual well-being. Furthermore, while the enhancement of physical facilities remains a priority, greater emphasis should be placed on cultivating students' capacity to engage meaningfully with their environment through guided learning experiences and reflective practices. These insights have the potential to inform the development of educational policies that strike a balance between academic rigour and the provision of emotional and spiritual support, particularly within the context of Islamic educational institutions.

This research contributes to the extant body of literature exploring academic performance in madrasah settings, thus offering a theoretical bridge between modern educational psychology and Islamic pedagogical principles. The paper's innovation lies in its reconceptualisation of academic stress. Rather than perceiving it as an undesirable burden, it is reimagined as a spiritually grounded source of motivation, *eustress*, that is profoundly influenced by students' cultural and religious context. The present study introduces a unique framework for understanding how stress, teacher quality, and environmental engagement function differently in faith-based schools by positioning Islamic values as active mediators of student resilience. Nevertheless, it is important to acknowledge the limitations of this study. The utilisation of self-report questionnaires, in the absence of teacher or parent perspectives, serves to constrain the depth and scope of the findings. It is recommended that future research adopt a mixed-methods approach for the purpose of investigating the interaction between academic stress, intrinsic motivation, and other moderating variables, including digital literacy and family involvement. The execution of such studies would facilitate a more comprehensive understanding of how various factors interplay to support student achievement and assist in the design of more targeted interventions for different educational contexts.

## REFERENCES

- Alsultan, A., Alharbi, A., Mahmoud, S., & Elsharkasy, A. (2023). The Mediating Role of Psychological Capital Between Academic Stress and Well-Being Among University Students. *Pegem Journal of Education and Instruction*, 13(2), 335–344. <https://doi.org/10.47750/pegegog.13.02.37>.
- Aneesh, M. R., Maya, K., & Aneesh, K. A. (2024). Education Inequality in India: An Empirical Analysis Using National Sample Survey Data. *Indian Journal of Human Development*, 18(2), 267–279. <https://doi.org/10.1177/09737030241280145>.
- Babbie, E. R. (2020). *The Practice of Social Research*. Cengage. <https://www.cengage.com/c/the-practice-of-social-research-15e-babbie/9780357360767/>
- Barseli, M., Ahmad, R., & Ifdil, I. (2018). Hubungan Stres Akademik Siswa dengan Hasil Belajar. *EDUCATIO: Jurnal Pendidikan Indonesia*, 4(1), 40–47. <http://dx.doi.org/10.29210/120182136>.
- Barth, A., & Blasius, J. (2021). *Quantitative Methods*. Walter de Gruyter GmbH. <https://doi.org/10.1515/9783110627275-022>.
- Bonem, E. M., Fedesco, H. N., & Zissimopoulos, A. N. (2020). What you do is less important than how you do it: the effects of learning environment on student outcomes. *Learning Environments Research*, 23(1), 27–44. <https://doi.org/10.1007/s10984-019-09289-8>.
- Efgivia, M. G., Rinanda, R. A., Hidayat, A., Maulana, I., & Budiarjo, A. (2021). Analysis of Constructivism Learning Theory. In 1st UMGESHIC International Seminar on Health, Social Science and Humanities (UMGESHIC-ISHSSH 2020) (208-212). Atlantis Press. <https://doi.org/10.2991/assehr.k.211020.032>.
- Fauth, B., Decristan, J., Decker, A. T., Büttner, G., Hardy, I., Klieme, E., & Kunter, M. (2019). The effects of teacher competence on student outcomes in elementary science education:



- The mediating role of teaching quality. *Teaching and Teacher Education*, 86. <https://doi.org/10.1016/j.tate.2019.102882>.
- Field, A. (2018). *Discovering Statistics using IBM SPSS Statistics*. Sage. <https://collegepublishing.sagepub.com/products/discovering-statistics-using-ibm-spss-statistics-5-260423>
- Firda, S., & Khairat, A. (2023). The Impact of Teacher Skills' on Students' Interest and Learning Outcomes. *International Journal of Education, Management, and Technology*, 1(1), 1–10. <https://doi.org/10.58578/ijemt.v1i1.1881>.
- Freire, C., Ferradás, D. M., Valle, A., Núñez, J. C., & Vallejo, G. (2016). Profiles of Psychological Well-being and Coping Strategies Among University Students. *Frontiers in Psychology*, 7, 1554. <https://doi.org/10.3389/fpsyg.2016.01554>.
- Gobena, G. A. (2024). Effects of Academic Stress on Students' Academic Achievements and Its Implications for Their Future Lives. *Anatolian Journal of Education*, 9(1), 113–130. <https://doi.org/10.29333/aje.2024.918a>.
- Goczek, L., Witkowska, E., & Witkowski, B. (2021). How does education quality affect economic growth? *Sustainability*, 13(11), 6437. <https://doi.org/10.3390/SU13116437>.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate Data Analysis*. Seventh Edition. Pearson Education. [https://www.researchgate.net/publication/354331182\\_A\\_Primer\\_on\\_Partial\\_Least\\_Squares\\_Structural\\_Equation\\_Modeling\\_PLS-SEM](https://www.researchgate.net/publication/354331182_A_Primer_on_Partial_Least_Squares_Structural_Equation_Modeling_PLS-SEM).
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2016). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. 2nd edition. Sage Publication. <https://www.amazon.com/Multivariate-Data-Analysis-Joseph-Hair/dp/0138132631>.
- Hakim, A. L., Fajri, M. B., & Faizah, E. N. (2022). Evaluation of Implementation of MBKM: Does Academic Stress Affect on Student Learning Outcomes? *International Journal of Educational Research and Social Sciences (IJERSC)*, 3(1), 1–16. <https://doi.org/10.51601/ijersc.v3i1.246>.
- Hariadi, B., Sodig, M., & M, N. F. (2022). Profesionalitas Guru Pendidikan Agama Islam dalam Meningkatkan Kualitas Pembelajaran Siswa di Madrasah Tsanawiyah Bi'ru'ul Ulum Sidoarjo. *El Banat: Jurnal Pemikiran Dan Pendidikan Islam*, 12(2), 138–158. <https://journal.unsuri.ac.id/index.php/jkhi/article/view/345>.
- Helmahani, M. A., & Biromo, A. R. (2022). Hubungan Tingkat Stres dengan Hasil Belajar Mahasiswa Fakultas Kedokteran Universitas Tarumanagara Angkatan 2017. *Ebers Papyrus*, 28(2), 31–40. <https://doi.org/10.24912/ep.v28i2.20653>.
- Ihsani, A. N. N. (2019). The Influence of Teachers' Competence Toward the Learning Outcome of Students from the Beauty Department in a Vocational High School in Semarang. In *1st Vocational Education International Conference (VEIC 2019)* (52-57). Atlantis Press. <https://doi.org/10.2991/assehr.k.191217.010>.
- Ima, W., Pattiasina, J., & Sopacua, J. (2023). Model to increase motivation and learning outcomes in learning history. *Journal of Education and Learning*, 17(2), 206–214. <https://doi.org/10.11591/edulearn.v17i2.20703>.
- Inuen, E. U. (2020). LEARNING ENVIRONMENT AND LEARNING OUTCOMES OF STUDENTS IN NIGERIAN SECONDARY SCHOOLS: IMPLICATIONS FOR SUSTAINABLE PERSONAL DEVELOPMENT. *Journal of the Nigerian Council of Educational Psychologists*, 11(1), 326–334. <https://journals.ezenwaohaetorc.org/index.php/NCEP/article/view/1114>.
- Juita, R., Syahza, A., & Suarman, S. (2025). The Moderating Role of Learning Environment in Self-Efficacy, Learning Motivation, and Academic Achievement Relationship. *Tarbawi: Jurnal Keilmuan Manajemen Pendidikan*, 11(01), 63–76. <https://doi.org/10.32678/tarbawi.v11i01.11157>.
- Kilford, E. J., Garret, E., & Blakemore, S. J. (2016). The development of social cognition in adolescence: An integrated perspective. *Neuroscience & Biobehavioral Reviews*.

- Neuroscience & Biobehavioral Reviews, 70, 106–120.  
<https://doi.org/10.1016/j.neubiorev.2016.08.016>.
- Kim, B. H., & Kim, J. (2016). Development and Validation of Evaluation Indicators for Teaching Competency in STEAM Education in Korea. *Eurasia Journal of Mathematics, Science, & Technology Education*, 12(7), 1909–1924.  
<https://doi.org/10.12973/eurasia.2016.1537a>.
- Lindacher, T. (2025). The decree of inclusive education and its potential for irritation for the educational system—A system-theoretical conceptualization of the relationship between education and politics. *Systems Research and Behavioral Science*, 42(2), 348–359.
- Liu, H., Shi, Y., Auden, E., & Rozelle, S. (2018). Anxiety in Rural Chinese Children and Adolescents: Comparisons Across Provinces and Among Subgroups. *International Journal of Environmental Research and Public Health*, 15(10), 2087–2101.  
<https://doi.org/10.3390/ijerph15102087>.
- Lombardi, D., Shipley, T. F., Astronomy Team, Team, B., & Physics Team. (2021). The Curious Construct of Active Learning. *Psychological Science in the Public Interest*, 22(1), 8–43. <https://doi.org/10.1177/1529100620973974>.
- Lu, G., Hu, W., Peng, Z., & Kang, H. (2014). The Influence of Undergraduate Students' Academic Involvement and Learning Environment on Learning Outcomes. *International Journal of Chinese Education*, 2(2), 265–288. <https://doi.org/10.1163/22125868-12340024>.
- Lumbantoroun, W. F. H., & Anggresta, V. (2023). Pengaruh Kompetensi Guru dan Fasilitas Belajar terhadap Prestasi Belajar Siswa SMPS Imanuel Bojong Nangka. *Research and Development Journal of Education*, 9(1), 121–129.  
<http://dx.doi.org/10.30998/rdje.v9i1.13988>.
- Mayombe, C. (2020). Adult Learners' Perception on the use of Constructivist Principles in Teaching and Learning in Non-Formal Education Centres in South Africa. *International Journal of Lifelong Education*, 39(4), 402–418.  
<https://doi.org/10.1080/02601370.2020.1796834>.
- Montgomery, D. C., Peck, E. A., & Vining, G. G. (2021). *Introduction to Linear Regression Analysis*, 6th Edition. John Wiley & Sons. <https://www.wiley.com/en-us/Introduction+to+Linear+Regression+Analysis%2C+6th+Edition-p-9781119578727>.
- Morazes, J. L. (2016). Educational Background, High School Stress, and Academic Success. *Children and Youth Services Review*, 69, 201–209.  
<https://doi.org/10.1016/j.childyouth.2016.08.008>.
- Moreira, M. A., Arcas, B., Sánchez, T., García, R., Melero, M. J., Cunha, N., & Almeida, M. E. (2023). Teachers' Pedagogical Competences in Higher Education: A Systematic Literature Review. *Journal of University Teaching and Learning Practice*, 20(1), 90–123.  
<https://doi.org/10.53761/1.20.01.07>
- Mustofa, A. (n.d.). Pengaruh Media Pembelajaran dan Lingkungan Belajar terhadap Hasil Belajar Siswa Kelas VIII pada Mata Pelajaran IPS selama Pandemi Covid-19 di MTs Al-Hamid Malang. Doctoral Dissertation, Universitas Islam Negeri Maulana Malik Ibrahim. <http://etheses.uin-malang.ac.id/id/eprint/28056>.
- Owan, V. J., Ekpenyong, J. A., Chuktu, O., Asuquo, M. E., Ogar, J. O., Owan, M. V., & Okon, S. (2022). Innate Ability, Health, Motivation, and Social Capital as Predictors of Students' Cognitive, Affective and Psychomotor Learning Outcomes in Secondary Schools. *Frontiers in Psychology*, 13, 1024017.  
<https://doi.org/10.3389/fpsyg.2022.1024017>.
- Pande, S., & Cicilia, I. (2023). Efek Kecakapan Profesional Guru dan Lingkungan Belajar Terhadap Hasil Belajar Siswa. 17(1), 9–18. <https://doi.org/10.21067/jppi.v17i1.8903>.
- Park, H., & Zheng, J. (2025). Teacher Noticing to Scaffold Knowledge-Building Inquiry in Two Grade 5 Classrooms. *Instructional Science*, 1–35. <https://doi.org/10.1007/s11251-024-09703-6>.



- Pascoe, M. C., Hetrick, S. E., & Parker, A. G. (2020). The Impact of Stress on Students in Secondary School and Higher Education. *International Journal of Adolescence and Youth*, 25(1), 104–112. <https://doi.org/10.1080/02673843.2019.1596823>.
- Pratama, H. J., & Ghofur, M. A. (2021). Pengaruh Motivasi Belajar dan Lingkungan Belajar Terhadap Hasil Belajar Mata Pelajaran Ekonomi Siswa Saat Pembelajaran Daring. *Edukatif: Jurnal Ilmu Pendidikan*, 3(4), 1568–1577. <https://doi.org/10.31004/edukatif.v3i4.621>.
- Pratama, W., Ahman, E., Machmud, A., & Dahlan. (2023). Academic Hardiness, Learning Motivation, Student Learning Outcomes In Indonesia: The Mediation Effect. *KnE Social Sciences*, 871–896. <https://doi.org/10.18502/kss.v3i12.4136>.
- Prihantoro, C. R., Ikhwant, R. F., & Dudung, A. (2019). The Effect of Teacher Competency and Teaching Commitment to Student Learning Results Machining Engineering Skills Program. *KnE Social Sciences*, 645–652. <https://doi.org/10.18502/kss.v3i12.4136>.
- Rao, N. J. (2020). Outcome-based Education: An Outline. *Higher Education for the Future*, 7(1), 5–21. <https://doi.org/10.1177/2347631119886418>.
- Schoepp, K. (2019). The State of Course Learning Outcomes at Leading Universities. *Studies in Higher Education*, 44(4), 615–627. <https://doi.org/10.1080/03075079.2017.1392500>.
- Singh, A., Singh, K., Kumar, A., Shrivastava, A., & Kumar, S. (2024). Optimizing Well-Being: Unveiling Eustress and Distress through Machine Learning. 2024 International Conference on Inventive Computation Technologies (ICICT), 150–154. <https://doi.org/10.1109/ICICT60155.2024.10544592>
- Slameto. (2010). Belajar dan Faktor-faktor yang Mempengaruhinya. Rineka Cipta. <https://dpk.kepriprov.go.id/opac/detail/5m0fn>
- Soro, S. H., Wibowo, F., Wikarso, M. I., Widiawati, L., & Adzani, N. H. (2024). The Influence of Teacher Competency on Student Learning Outcomes. *Didaktika: Jurnal Kependidikan*, 13(1), 467–474. <https://doi.org/10.58230/27454312.431>.
- Suminar, B. C. (2018). Pengaruh Gaya Belajar, Interaksi Teman Sebaya, dan Lingkungan Belajar terhadap Hasil Belajar Matematika. *JP2M (Jurnal Pendidikan Dan Pembelajaran Matematika)*, 4(1), 99–106. <https://doi.org/10.29100/jp2m.v4i1.1784>.
- Sun, J., Dunne, M. P., Hou, X., & Xu, A. (2013). Educational Stress among Chinese Adolescents: Individual, Family, School and Peer Influences. *Educational Review*, 65(3), 284–302. <https://doi.org/10.1080/00131911.2012.659657>.
- Syaidah, U., Suyadi, B., & Ani, H. M. (2018). Pengaruh Kompetensi Guru terhadap Hasil Belajar Ekonomi di SMA Negeri Rambipuji Tahun Ajaran 2017/2018. *Jurnal Pendidikan Ekonomi: Jurnal Ilmiah Ilmu Pendidikan, Ilmu Ekonomi Dan Ilmu Sosial*, 12(2), 185–191. <https://doi.org/10.19184/jpe.v12i2.8316>.
- Tetteh, G. A., & Sarpong, F. A. A. (2015). Influence of Type of Assessment and Stress on the Learning Outcome. *Journal of International Education in Business*, 8(2), 125–144. <https://doi.org/10.1108/JIEB-05-2015-0015>.
- Titu, M. A., Masi, R., & Keban, S. K. K. (2023). Pengaruh Kompetensi Guru terhadap Hasil Belajar Siswa Kelas XI di SMA Negeri I Adonara Barat Tahun Ajaran 2022/2023. *Jurnal Pendidikan Dan Kewirausahaan*, 11(1), 213–222. <https://doi.org/10.47668/pkwu.v11i1.655>.
- Uerz, D., Volman, M., & Kral, M. (2018). Teacher Educators' Competences in Fostering Student Teachers' Proficiency in Teaching and Learning with Technology: An Overview of Relevant Research Literature. *Teaching and Teacher Education*, 70, 12–23. <https://doi.org/10.1016/j.tate.2017.11.005>.
- Xu, F. (2019). Towards a rational constructivist theory of cognitive development. *Psychological Review*, 126(6), 841–864. <https://doi.org/10.1037/rev0000153>.
- Xu, M. L., & Leung, S. O. (2018). Effects of varying numbers of Likert scale points on factor structure of the Rosenberg Self-Esteem Scale. *Asian Journal of Social Psychology*, 21(3), 119–128. <https://doi.org/10.1111/ajsp.12214>.