



# The Effect of Emotional Intelligence, Adversity Intelligence, and Self-Confidence on Science Learning Outcomes of Junior High School Students in Tamalate District, Makassar City

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**Abstract:** This study aims to analyze the effect of emotional intelligence, adversity intelligence, and self-confidence on science learning outcomes of students at public junior high schools in Tamalate District, Makassar City. The research used an ex post facto design with a survey approach involving 294 eighth-grade students selected through purposive sampling. Data were collected using validated questionnaires and documentation of students' science scores, then analyzed using descriptive statistics and multiple linear regression. The results show that emotional intelligence, adversity intelligence, and self-confidence are generally at a moderate level, although variations among students are evident. Science learning outcomes are also categorized as moderate, indicating that most students have met minimum competency standards but have not yet achieved optimal performance. Inferential analysis reveals that emotional intelligence, adversity intelligence, and self-confidence each have a positive and significant effect on science learning outcomes. However, simultaneously, these three variables show a more substantial collective influence, although their contribution remains relatively limited, suggesting the presence of other influencing factors outside the study. In conclusion, students' psychological factors play an important role in determining science learning achievement. Therefore, learning strategies that integrate emotional regulation, resilience building, and self-confidence enhancement are needed to improve students' academic performance in science.

**Keywords:** Adversity intelligence; Emotional intelligence; Science learning outcomes; Self-confidence

## Introduction

Learning is a long process aimed at achieving better outcomes. Good learning outcomes originate from a well-structured learning process. In order for the process to run effectively, special attention must be given to the factors that influence it. Learning is influenced by two factors, namely internal and external factors. Internal factors are those that come from within the learners, such as emotional intelligence, adversity intelligence, self-confidence, and several other internal aspects. Meanwhile, external factors are those that come from outside the learners, such as the school social

environment, including teachers, administration, peers, and other external influences (Yani, 2019).

Learning outcomes are a key indicator of the success of the learning process and the achievement of educational goals. Science learning will be more meaningful when students have high motivation, interest, and encouragement toward the material being studied. However, in reality, many students still experience difficulties in achieving the Minimum Mastery Criteria (KKM) in science subjects (Wangsa et al., 2021). Student learning outcomes are influenced by various factors that are generally categorized into two major groups, namely internal and external factors.

## How to Cite:

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External factors include family environment, school social conditions, teaching methods, and learning media used by teachers. Meanwhile, internal factors come from within the learners, including physical aspects, psychological aspects, and various types of intelligence they possess. Among these factors, internal factors play a highly strategic role because students, as the main actors in learning, must always be in a ready state to receive lessons in order for learning objectives to be achieved (Mulia et al., 2021).

One of the internal factors proven to have a significant effect on learning outcomes is emotional intelligence. The emotional intelligence has a positive and significant influence on learning outcomes. This finding is also consistent with the study by Nursari (2022), which found a significant effect of emotional intelligence on the academic achievement of students at a private junior high school in Bogor Regency. These findings confirm that an individual's ability to recognize, manage, and utilize emotions effectively plays a real role in improving learning outcomes (Ibrahim, 2022). In addition to emotional intelligence, another important internal factor is adversity intelligence.

Adversity intelligence refers to an individual's ability to face and overcome difficulties or challenges. Students with high adversity intelligence are better able to cope with learning difficulties. Conversely, students with low levels of adversity intelligence tend to perceive difficulties as the end of their struggle, which leads to low learning outcomes (Yani, 2019). Research by Yasarah (2023) found that adversity intelligence has a direct influence on learning outcomes. This is also supported by Rosalina (2024), who found a significant influence of emotional intelligence on the academic achievement of junior high school students in East Jakarta. Hasniar et al. (2024) also stated that the higher the adversity intelligence, the higher the students' learning outcomes.

These findings emphasize that the higher the students' adversity intelligence, the higher the learning outcomes achieved, thus the research hypothesis is accepted. Self-confidence is the third internal factor that is no less important in supporting learning success. Self-confidence is an individual's belief in their own abilities and potential. It enables individuals to act bravely, take risks, and pursue goals without doubt or fear. Students with high self-confidence are able to achieve good learning outcomes, while lack of self-confidence can negatively affect academic achievement (Jelita & Sholehuddin, 2024). Research by Dewi (2023) found a significant influence of self-confidence on science learning outcomes of fifth-grade students in Cluster IV, Sukawati District. Sakina et al. (2024) also confirmed that

self-confidence has a positive effect on junior high school students' learning outcomes because it encourages active participation in learning.

The achievement of optimal learning outcomes is not solely determined by intellectual capacity but is also strongly influenced by students' psychological ability to respond to and overcome various academic obstacles. In this context, adversity intelligence acts as a crucial element reflecting an individual's resilience, toughness, and ability to manage and transform learning challenges into opportunities for success. Students with high adversity intelligence tend not to give up easily when faced with complex competencies or learning materials; instead, they continuously strive to find solutions and maintain consistency in their learning activities (Arni et al., 2022). Psychologically, the ability to face these difficulties goes hand in hand with an individual's level of emotional intelligence in managing anxiety, as well as strong self-confidence in their possessed competencies. The synergistic combination of resilience in facing challenges, emotional stability, and positive self-confidence ultimately shapes complete learning readiness, which leads to a significant improvement and enhancement in the quality of learning outcomes.

Based on initial observations in several public junior high schools in Tamalate District, Makassar City, variations in learning outcomes and students' internal factors were found. At SMP Negeri 15 Makassar, the average science score reached 85, with a range from 100 to 65 and 85% of students achieving the KKM. The classroom environment was conducive, and students actively participated in learning activities.

Most students had good emotional intelligence and adversity intelligence, demonstrated by their ability to manage emotions, cooperate, and stay focused when facing difficulties. Students' self-confidence was also relatively high, as seen from their courage in answering and expressing opinions, although some were still hesitant during presentations.

At SMP Negeri 24 Makassar, the average science score reached 87, with a range from 98 to 78 and 95% of students achieving the KKM. Most students demonstrated discipline, resilience in overcoming learning difficulties, and high confidence in answering questions and expressing opinions. At SMP Negeri 55 Makassar, learning outcomes were even higher, with an average score of 95, a range from 100 to 80, and 100% of students achieving the KKM. Students in this school generally had good emotional intelligence, were able to collaborate, and showed strong confidence and determination. At SMP Negeri 18 Makassar, the average score was 85, with a range from 100 to 65 and 85% achieving the KKM. Students were quite able to manage emotions, had resilience under academic pressure, and

showed confidence in answering questions, although some were still hesitant during presentations. Meanwhile, at SMP Negeri 54 Makassar, the average score was 86, with a range from 90 to 65 and 80% of students achieving the KKM. Observations indicated differences in emotional intelligence, adversity intelligence, and self-confidence.

Some students were able to control emotions and show confidence, while others still needed guidance in managing academic pressure and expressing ideas. These observations indicate differences in learning outcomes both between schools and among students within the same school. These differences are not only related to external factors but are also closely linked to internal factors such as emotional intelligence, adversity intelligence, and self-confidence. This phenomenon indicates that intellectual ability alone is not sufficient to ensure optimal learning outcomes. Many students assume that science subjects rely only on memorization, whereas in reality, deep understanding and proper thinking processes are required. Low student learning outcomes should not be ignored because they can have detrimental impacts.

If learning outcomes are low, students will experience difficulties in following subsequent learning materials due to insufficient understanding. In addition, low learning outcomes also have psychological effects, such as reduced self-confidence and feelings of pressure during the learning process.

Novelty of this study lies in its integrated analysis of three key internal factors emotional intelligence, adversity intelligence, and self-confidence in simultaneously predicting students' science learning outcomes at the junior high school level. Previous studies have generally examined these variables separately or in limited combinations, and often focused on different educational contexts or grade levels. Moreover, most existing research tends to emphasize the influence of a single psychological factor on learning outcomes without comprehensively considering the synergistic interaction among these internal variables.

In addition, this study is specifically conducted in the context of public junior high schools in Tamalate District, Makassar City, where variations in student achievement and psychological characteristics have been observed across schools. This local context provides a more contextualized empirical contribution to understanding how internal psychological factors operate in real classroom conditions. Therefore, this research is expected to fill the gap in the literature by offering a more holistic model that explains how emotional intelligence, adversity intelligence, and self-confidence collectively contribute to science learning

outcomes, particularly in the Indonesian junior high school setting.

Based on the description above, it is important to conduct an in-depth study on how emotional intelligence, adversity intelligence, and self-confidence influence students' science learning outcomes. This study aims to provide empirical evidence regarding the role of these three internal factors in supporting optimal learning achievement.

## Method

This study is an ex post facto research with a survey approach. According to Mulyani (2025); Sugiyono (2021), ex post facto research is a study aimed at tracing back the causes and factors of an event that has already occurred in respondents without any treatment or manipulation of variables by the researcher. The research design used is a causal correlational design, which aims to identify whether there is an influence between independent variables and the dependent variable as well as to measure the magnitude of that influence (Cresswell, 2012). In this study, the influence of emotional intelligence ( $X_1$ ), adversity intelligence ( $X_2$ ), and self-confidence ( $X_3$ ) on science learning outcomes ( $Y$ ) is analyzed, both partially and simultaneously.

This research was conducted in the odd semester of the 2025/2026 academic year at public junior high schools (SMP Negeri) in Tamalate District, Makassar City. The population in this study consisted of all eighth-grade students of SMP Negeri in Tamalate District, Makassar City, totaling 1,111 students across five schools. The selection of grade VIII students was based on the consideration that they are in early adolescence with significant psychological development and have relatively stable experience in learning science. The sampling technique used was purposive sampling with specific considerations, namely school representation based on large, medium, and small student populations, as well as the willingness of schools to participate in the study. The sample size was determined using the Slovin formula with a 5% error margin, resulting in 294 students, who were then proportionally allocated to each school.

The research variables consisted of independent variables, namely emotional intelligence, adversity intelligence, and self-confidence, and a dependent variable, namely science learning outcomes. Emotional intelligence was measured based on five indicators proposed by Goleman (2003), adversity intelligence was measured based on four dimensions proposed by Stoltz (2000), and self-confidence was measured based on four indicators proposed by Preston (2007). Meanwhile,

science learning outcomes were obtained from students' examination scores or report card grades. Data on emotional intelligence, adversity intelligence, and self-confidence were collected using closed-ended questionnaires with a four-point Likert scale.

The research instruments consisted of questionnaires and documentation of academic scores. The questionnaires were tested for validity and reliability before being used for data collection. Data collection techniques were carried out through distributing questionnaires to respondents and collecting students' learning outcome data from the school. In addition, school and student documentation was also collected as supporting data for the study.

Data analysis was conducted using descriptive and inferential statistics. Descriptive statistics were used to describe the characteristics of each research variable, while inferential statistics were used to test the research hypotheses. Inferential analysis was carried out using simple linear regression to examine the effect of each independent variable on the dependent variable, as well as multiple linear regression to examine the simultaneous effect of the three independent variables. Prior to analysis, the data were tested for assumption requirements such as normality and linearity using SPSS version 21.0 for Windows with a significance level of 0.05.

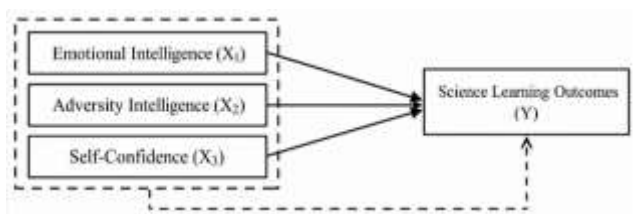


Figure 1. Research Design

## Result and Discussion

Based on the research problems that have been formulated, this study aims to analyze the influence of emotional intelligence, adversity intelligence, and self-confidence on science learning outcomes of students at public junior high schools in Tamalate District, Makassar City. The data obtained in this study were analyzed using Microsoft Excel and SPSS version 22.0 for Windows with a descriptive statistical approach to comprehensively describe the condition of each research variable. The results of the analysis are then presented in the form of statistical distribution tables accompanied by descriptive interpretation in order to provide a clear overview of the empirical conditions in the field.

*Description of Emotional Intelligence of Students at Public Junior High Schools in Tamalate District, Makassar City*

The results of the descriptive statistical analysis of the emotional intelligence variable of students at public junior high schools in Tamalate District, Makassar City. Based on the data analysis of 294 respondents, it was found that the lowest score of emotional intelligence was 44, while the highest score reached 120. The mean score obtained was 84.53 with a standard deviation of 12.46. This mean value indicates that, in general, students' emotional intelligence is in the fairly good category, suggesting that most students have developed basic abilities in recognizing their own emotions, managing feelings, and understanding others' emotions within social interactions in the school environment.

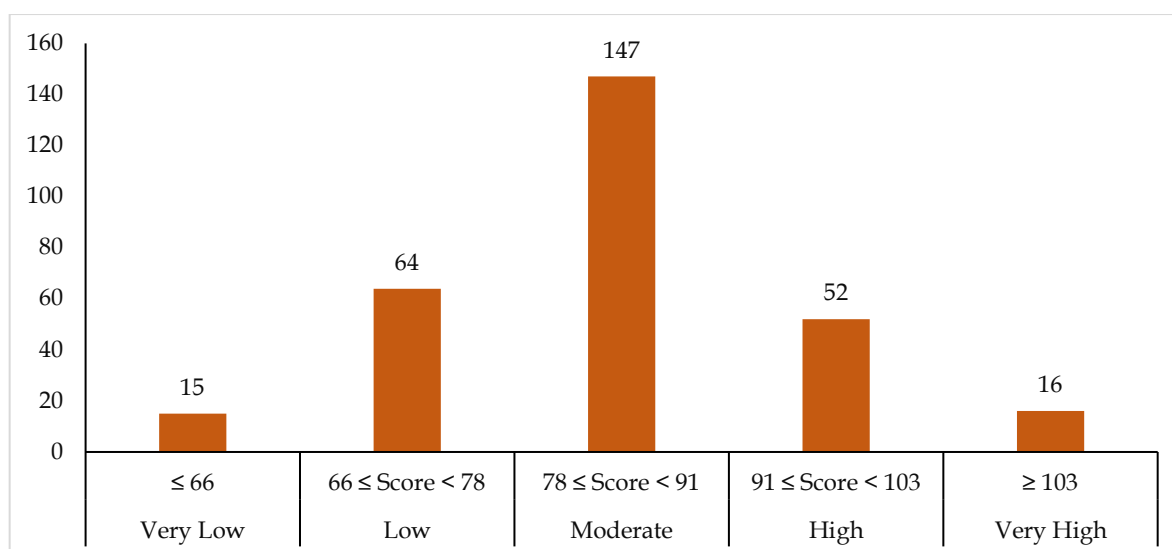
Furthermore, the relatively wide range between the minimum and maximum scores indicates a significant variation in emotional intelligence levels among students. This reflects that some students still have low emotional management abilities, while others have already achieved very high levels of emotional intelligence. The relatively large standard deviation value of 12.46 further supports this finding, indicating a fairly high level of data dispersion. This condition suggests that emotional abilities among students are highly diverse, highlighting the need for schools, teachers, and counselors to provide continuous guidance to help students develop more optimal and evenly distributed emotional regulation skills.

To provide a more detailed overview of students' emotional intelligence distribution, categorization was conducted based on the mean and standard deviation approach. The distribution shows that the moderate category is the most dominant, with 147 students or 50% of the total respondents. This indicates that half of the students have a moderate level of emotional intelligence, meaning they are sufficiently capable of managing emotions but still require further development to reach higher categories.

The low category ranks second, consisting of 64 students or 22%. This finding indicates that a considerable number of students still experience difficulties in managing emotions, such as controlling anger, understanding others' feelings, or maintaining emotional stability in learning situations. Meanwhile, the high category consists of 52 students or 18%, indicating that these students have good emotional intelligence and are able to apply it effectively in daily school life.

In the very high category, there are 16 students or 5% who demonstrate excellent emotional intelligence, including strong empathy, good self-control, and mature social skills. Conversely, the very low category also consists of 15 students or 5%, indicating that a small proportion of students still face serious difficulties in managing their emotions.





**Figure 2.** Frequency Distribution of Students' Emotional Intelligence

Overall, this distribution shows that although most students fall into the moderate category, there are still groups that require special intervention and assistance to further develop their emotional competencies.

*Description of Adversity Intelligence of Students at Public Junior High Schools in Tamalate District, Makassar City*

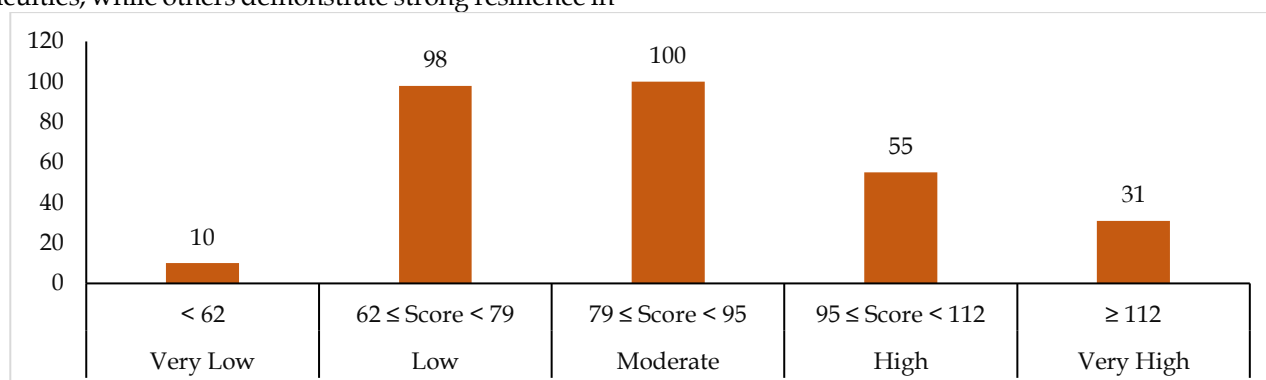
The results of the descriptive statistical analysis of the adversity intelligence variable provide an overview of students' ability to face, overcome, and persist in dealing with learning difficulties, particularly in science subjects. Based on Table 4.3, out of 294 respondents, the lowest score was 42 and the highest score was 120. The mean score of adversity intelligence was 87.03 with a standard deviation of 16.57. This mean score indicates that, in general, students' ability to cope with academic challenges is at a fairly adequate level, although it is not yet optimal.

The wide range between the minimum and maximum scores reflects a substantial difference in students' levels of perseverance. This suggests that some students tend to give up easily when facing learning difficulties, while others demonstrate strong resilience in

dealing with academic challenges. The relatively high standard deviation of 16.57 also indicates a high level of data variability, meaning that students' adversity intelligence is not evenly distributed. This condition highlights an important concern in education, as it reflects inequality in students' resilience and persistence in learning.

Furthermore, the categorization results of adversity intelligence are presented in Table 4.4. The findings show that the moderate category is the largest group, consisting of 100 students or 34%. This indicates that most students have a moderate level of perseverance, meaning they are able to face difficulties but are not yet consistently resilient in sustaining their learning efforts.

However, the low category is nearly equal in number, with 98 students or 33%. This finding indicates that a significant proportion of students still have low adversity intelligence, meaning they are easily discouraged, lack confidence when facing difficulties, and have not yet developed strong strategies for overcoming learning challenges in science.



**Figure 3.** Frequency Distribution of Students' Adversity Intelligence

In the high category, there are 55 students or 19% who demonstrate good ability to face academic difficulties and maintain persistence in challenging learning situations. Meanwhile, the very high category consists of 31 students or 11%, representing a small group with excellent learning resilience, strong motivation, and effective problem-solving abilities. The very low category includes 10 students or 3%, indicating a small group that requires serious attention in terms of motivation and psychological support.

Overall, this distribution shows that although the majority of students fall into the moderate category, the proportion of students in the low and very low categories remains relatively high, reaching 36%. This indicates the need for strategic interventions from schools, such as enhancing learning motivation, strengthening resilience character, and creating a supportive learning environment to help students improve their adversity intelligence, particularly in science learning.

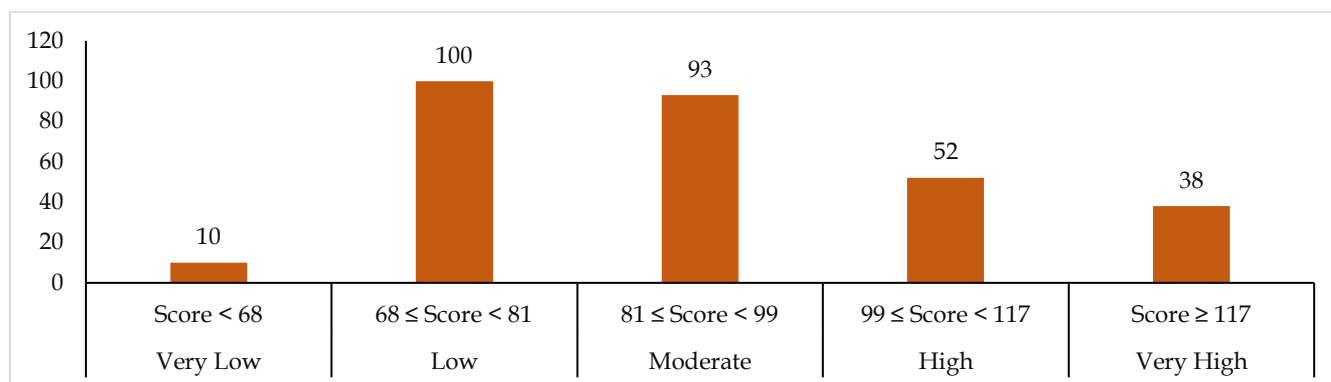
*Description of Students' Self-Confidence of SMP Negeri in Tamalate District, Makassar City*

Based on the results of descriptive statistical analysis on the self-confidence variable of students from public junior high schools (SMP Negeri) in Tamalate District, Makassar City, involving 294 respondents, it was found that the overall level of students' self-confidence varied considerably. The analysis shows that the self-confidence scores had a mean of 89.66 with a standard deviation of 18.30. The lowest score obtained was 41, while the highest score reached 120. The mean score indicates that, in general, students' self-confidence is at a moderate level, meaning that students generally have belief in their own abilities, although it has not yet reached an optimal level.

The relatively wide score range, from 41 to 120, indicates a significant variation among students in terms of self-confidence. This suggests differences in levels of self-belief, ranging from students with very low self-confidence to those with very high self-confidence. Meanwhile, the relatively large standard deviation value of 18.30 confirms that the data are widely dispersed rather than concentrated around the mean. This condition reflects disparities in students' self-confidence levels, which may be influenced by various internal and external factors such as learning experiences, social support, as well as family and school environments.

Furthermore, based on the distribution of self-confidence categories, it was found that out of 294 respondents, the low category dominated with 100 students or 34%. This indicates that most students still have insufficient confidence in participating in the learning process. This condition may result in a lack of courage among students to express opinions, ask questions, or actively participate in science learning activities.

The moderate category ranked second with 93 students or 32%, indicating that a considerable number of students have an adequate level of self-confidence, although it is still not optimal. In the high category, there were 53 students or 18%, showing that a smaller proportion of students already possess good self-confidence in the learning process. Meanwhile, the very high category included 38 students or 13%, representing students who have strong self-confidence and tend to be more active in learning. The very low category was the smallest group, consisting of 10 students or 3%, indicating a small number of students experiencing serious difficulties in self-confidence.



**Figure 4.** Frequency Distribution of Students' Self-Confidence

Overall, the dominance of the low and moderate categories indicates that students' self-confidence still requires serious attention from schools, particularly teachers in the learning process. This situation suggests

the need for more innovative and participatory learning strategies to enhance students' self-confidence, such as discussion-based learning, presentations, group work, and appreciation of students' efforts. Science teachers

play an important role in creating a psychologically safe classroom environment so that students feel more confident in expressing themselves and trusting their own abilities.

*Description of Science Learning Outcomes of Students of SMP Negeri in Tamalate District, Makassar City*

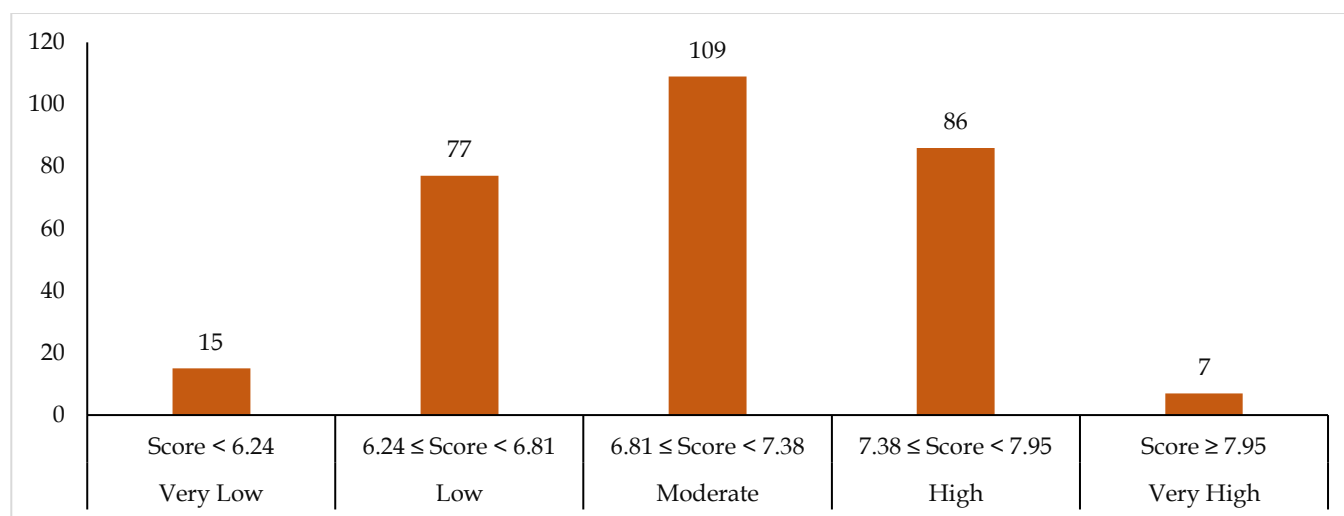
Based on the descriptive statistical analysis of students' science learning outcomes from SMP Negeri in Tamalate District, Makassar City, involving 294 respondents, it was found that the average score of science learning outcomes was 7.09 with a standard deviation of 0.57. The lowest score obtained was 5.10, while the highest score reached 8.52. This mean score indicates that, in general, students' science learning outcomes are in a fairly good category, meaning that most students have met the expected competency standards in science learning.

The relatively narrow score range, from 5.10 to 8.52, along with the small standard deviation, indicates that variations in learning outcomes among students are not

significantly large. This suggests that students' academic abilities in science tend to be relatively homogeneous, with no extreme disparities among individuals. Therefore, it can be concluded that the distribution of students' cognitive abilities is generally stable, although differences in mastery levels still exist.

Based on the distribution of science learning outcome categories, the moderate category was the most dominant, with 109 students or 37%. This indicates that more than one-third of students have achieved a sufficient level of understanding of science concepts, although not yet at a high level. The high category ranked second with 86 students or 29%, showing that nearly one-third of students have good mastery of science material.

Meanwhile, only 7 students or 2% were in the very high category, indicating that only a small number of students achieved excellent academic performance in science. On the other hand, 77 students or 26% were in the low category, and 15 students or 5% were in the very low category.



**Figure 5.** Frequency Distribution of Science Learning Outcomes Students'

This condition shows that although most students are in the moderate and high categories, there is still a group of students who require additional support to improve their science learning outcomes.

*Analysis of the Significance of the Effect of Emotional Intelligence, Adversity Intelligence, and Self-Confidence on Science Learning Outcomes*

The inferential statistical analysis shows that the three psychological variables studied emotional intelligence, adversity intelligence, and self-confidence have an influence on students' science learning outcomes, both partially and simultaneously. Based on simple regression analysis, each variable shows a significant effect on science learning outcomes.

Emotional intelligence contributes 16.7% to the variation in science learning outcomes, with a correlation coefficient of 0.409, indicating a fairly strong relationship between the two variables. This suggests that the better students manage their emotions, the better their learning outcomes will be.

Furthermore, adversity intelligence also shows a significant effect, contributing 18.4% to science learning outcomes. The correlation coefficient of 0.429 indicates a fairly strong relationship and is slightly more dominant compared to emotional intelligence. This suggests that students' ability to face difficulties, persist under pressure, and solve problems plays an important role in determining academic success. Self-confidence also contributes 16.7% to science learning outcomes, with a

correlation coefficient of 0.409. This indicates that students with higher self-confidence tend to be more active in the learning process and achieve better academic results. However, in the multiple regression analysis, although the three variables simultaneously have a significant effect on science learning outcomes with a contribution of 19.6%, each variable no longer shows a significant partial effect. This indicates a possible overlap among the independent variables, meaning that their effects may be interrelated when analyzed together.

Overall, the findings of this study confirm that emotional intelligence, adversity intelligence, and self-confidence are important psychological factors that jointly contribute to improving students' science learning outcomes, although their contribution is relatively small compared to other factors outside this study. Therefore, a more comprehensive instructional approach is needed to optimize these three aspects in the educational process.

### *Discussion*

Based on the results of data analysis conducted in this study, both descriptive and inferential, the discussion is intended to provide an explanation of the findings based on the research results.

#### *Description of Students' Emotional Intelligence of SMP Negeri in Tamalate District, Makassar City*

The results of the descriptive statistical analysis show that the emotional intelligence of students at SMP Negeri in Tamalate District, Makassar City is generally in the moderate category. This finding indicates that approximately half of the student population has developed basic cognitive-affective abilities to recognize their own emotions, manage stress, and show empathy toward their peers at a standard level. However, since the level is still categorized as moderate, their emotional stability remains vulnerable when faced with academic pressures requiring higher-order thinking skills, particularly in science (IPA) subjects.

This predominance of moderate emotional intelligence among junior high school students is consistent with the findings of Amanda et al. (2024), which reported that students at SMP Negeri 8 Bukittinggi also predominantly fall into the moderate category. Similarly, Basri & Daud (2022) found that eighth-grade students in Selayar Islands Regency also demonstrated moderate levels of emotional intelligence in science learning. This condition contributes to learning motivation being limited to moderate-to-high levels, which ultimately results in science learning outcomes that are only at a sufficient level. The dominance of the "moderate category" at the junior high school level is scientifically reasonable, as students are in

the puberty stage, where the amygdala (responsible for emotions) develops faster than the prefrontal cortex (responsible for logical reasoning).

In addition to the majority of respondents being in the moderate category, the relatively wide data range (minimum score of 44 and maximum of 120) indicates a real disparity in emotional regulation among students. A small proportion of students already demonstrate highly mature emotional regulation. However, the presence of students in the low (22%) and very low (5%) categories in Tamalate District is a serious concern for educators. Science subjects require persistence, sustained observation, and mental resilience when facing experimental failure. Students with low emotional intelligence tend to respond to learning difficulties with apathy, frustration, and withdrawal from group activities. Study in MTs Negeri 7 Jember showed that even high-achieving classes may experience a decline in science learning outcomes when non-academic abilities, particularly emotional and spiritual regulation, remain underdeveloped. Therefore, these findings highlight the need for teachers to transform their role not only as knowledge transmitters but also as facilitators of students' emotional development.

#### *Description of Students' Adversity Intelligence of SMP Negeri in Tamalate District, Makassar City*

The descriptive statistical analysis shows that students' adversity intelligence is also in the moderate category. The largest group is in the moderate category with 100 students (34%), followed closely by the low category with 98 students (33%). Combined, approximately 67% of students in Tamalate District fall into the moderate to low categories of adversity intelligence. This indicates that the majority of students tend to lack persistence when facing difficulties, especially in dealing with complex science concepts.

This phenomenon reflects a real psychological issue in science learning at the junior high school level. It is consistent with Rahmawati & Purnamasari (2024), who found that 45.2% of eighth-grade students were in the moderate category of adversity quotient. Students in this group tend to complete only low-order thinking tasks as a form of obligation and avoid attempting higher-order analytical problems.

Adversity intelligence is crucial because science learning requires high mental endurance, especially in laboratory activities, data observation, and trial-and-error processes. This is supported by Pratama & Setiawan (2025), who found that 68% of students with low to moderate adversity intelligence tend to give up or copy their peers' work when experiments fail or when they struggle to analyze data. Such behavior directly reduces their practical scores compared to students who



persist in repeating experiments until success is achieved.

Therefore, these findings suggest the need for pedagogical improvement. Science teachers should design learning environments that allow students to struggle productively, avoid immediately providing answers, and appreciate the process of trying. Without strengthening adversity intelligence, even academically capable students may easily give up when facing challenges.

#### *Description of Students' Self-Confidence of SMP Negeri in Tamalate District, Makassar City*

The descriptive results indicate that students' self-confidence is generally in the moderate category. However, unlike the previous variables, self-confidence shows a concerning pattern. The largest proportion of students is in the low category, with 100 students (34%). When combined with the very low category (3%), a total of 37% of students experience a lack of confidence in their abilities.

In the context of science learning, this low self-confidence results in passive classroom behavior, reluctance to ask questions, hesitation in proposing hypotheses, and anxiety when presenting work. This condition is supported by Wulandari & Purwanto (2023), who found that 42.5% of students lacked confidence in inquiry-based science learning, which significantly affected their cognitive achievement.

Another notable finding is the high standard deviation (18.30), the largest among all variables, with scores ranging from 41 to 120. This indicates a strong inequality in students' self-confidence levels. Highly confident students (13%) and confident students (18%) tend to dominate classroom activities, while less confident students remain passive. This is consistent with Siregar et al. (2024), who found a significant correlation ( $r = 0.512$ ,  $p = 0.014$ ) between self-confidence and student participation in biology laboratories. Their observations showed that confident students handled up to 75% of laboratory activities, while less confident students remained passive observers.

Self-confidence is essential in science learning because scientific inquiry requires curiosity, questioning, and experimentation. Therefore, schools must address this issue by creating a psychologically safe learning environment and encouraging participation without fear of judgment.

#### *Description of Science Learning Outcomes of Students of SMP Negeri in Tamalate District, Makassar City*

The descriptive analysis shows that students' science learning outcomes are generally in the moderate category. This indicates that students' cognitive understanding of integrated science concepts (biology

and physics) has met the minimum competency standards, although it has not yet reached an excellent level. Most students can answer basic conceptual questions but still require guidance in analytical problem-solving tasks.

This finding aligns with Fitriani & Susanti (2024), who reported that low standard deviation in science achievement is often associated with teacher-centered learning. Such instruction tends to produce uniform but stagnant outcomes.

Although most students are in the moderate category, 29% are in the high category and 2% in the very high category, indicating that 31% of students have strong science literacy skills. This is consistent with Widodo et al. (2025), who found that high-achieving students tend to have strong conceptual foundations and can connect theoretical knowledge with real-world phenomena.

However, 26% of students are in the low category and 5% in the very low category, which is a significant proportion. Kurniawan & Hidayat (2026) found that students in this category often experience misconceptions in genetics and human circulatory systems, leading to high failure rates in HOTS-based assessments. Therefore, differentiated instruction is needed to accommodate varying levels of student understanding.

#### *Effect of Emotional Intelligence on Science Learning Outcomes*

The regression analysis shows that emotional intelligence has a positive and significant effect on students' science learning outcomes. This indicates that emotional intelligence plays an important role as an internal factor influencing academic success. Emotionally intelligent students are better able to manage academic stress, remain calm during difficult tasks, and maintain motivation after failure. This emotional stability improves concentration and enhances learning absorption.

Furthermore, emotional intelligence supports positive social interaction in group learning and laboratory activities. Students are required to collaborate, respect others' opinions, and regulate emotions during disagreements, which contributes to a conducive learning environment. These findings are consistent with Aprilianti et al. (2025); Dewi (2022); Janah & Fariyah (2021); Sitiman (2021), all of whom reported that emotional intelligence significantly contributes to academic achievement.

#### *Effect of Adversity Intelligence on Science Learning Outcomes*

The results show that adversity intelligence has a positive and significant effect on science learning

outcomes. This reflects the importance of students' ability to face challenges, difficulties, and academic pressure. Students with high adversity intelligence tend to persist in solving problems, actively seek solutions, and repeat learning attempts when necessary. In contrast, students with low adversity intelligence tend to give up easily and avoid challenging tasks. This finding is supported by Darmawan & Sujatmiko (2024); Hidayati & Rahmawati (2025); Listyomurni et al. (2023), who all found that adversity intelligence significantly influences science achievement. Thus, strengthening students' resilience and perseverance is essential in science education.

#### *Effect of Self-Confidence on Science Learning Outcomes*

The analysis indicates that self-confidence has a positive and significant effect on science learning outcomes. Self-confidence enables students to actively participate in learning activities such as discussions, experiments, and presentations.

Confident students are more willing to take risks, answer questions, and engage in problem-solving, which enhances their conceptual understanding. Conversely, low-confidence students tend to be passive and hesitant, which limits their learning experience. This finding is supported by Fitriyah & Santoso (2024); Hasanah & Ramadani (2025); Lestari & Wahyudin (2025), who reported similar results in science education contexts.

#### *Simultaneous Effect of Emotional Intelligence, Adversity Intelligence, and Self-Confidence on Science Learning Outcomes*

The multiple regression analysis shows that emotional intelligence, adversity intelligence, and self-confidence simultaneously have a significant effect on science learning outcomes.

These three variables are interrelated and form an integrated psychological system within students. Emotional intelligence helps regulate emotions under pressure, adversity intelligence supports persistence in overcoming difficulties, and self-confidence encourages active participation in learning.

In classroom practice, these three factors work together. Students who manage emotions well tend to persist longer when facing difficulties, and this persistence strengthens their self-confidence. Conversely, weakness in any of these aspects can reduce learning effectiveness. This finding is supported by Purnomo & Wibowo (2024); Yuliani & Rahayu (2025), who found that psychological factors are more powerful when analyzed in an integrated manner. Therefore, improving science learning outcomes requires a holistic educational approach that develops not only cognitive abilities but also emotional regulation, resilience, and

self-confidence through interactive and student-centered learning strategies.

## **Conclusion**

Based on the results of data analysis and discussion, it can be concluded that emotional intelligence, adversity intelligence, and self-confidence have an influence on students' science learning outcomes at public junior high schools in Tamalate District, Makassar City, both partially and simultaneously. Descriptively, these three internal student variables are generally in the moderate category, although there is still a proportion of students in the low category, particularly in self-confidence and adversity intelligence. This indicates variations in students' psychological characteristics both within and between schools, which contribute to differences in science learning outcomes. Inferentially, emotional intelligence, adversity intelligence, and self-confidence each have a positive and significant effect on science learning outcomes. Adversity intelligence shows the greatest contribution compared to the other two variables, highlighting the importance of students' resilience in facing learning difficulties. However, in the multiple regression analysis, the three variables simultaneously remain significant, although their overall contribution is relatively small, and there is an indication of interrelationship among these psychological variables. Thus, it can be concluded that science learning outcomes are not only influenced by cognitive ability, but are also strongly determined by students' internal psychological factors. Therefore, improving science learning outcomes should be carried out through a learning approach that does not only focus on academic aspects, but also on the development of emotional intelligence, adversity intelligence, and self-confidence in an integrated manner through active, collaborative, and student-centered learning.

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