Journal of Education and Teaching Learning (JETL)
Volume 8, Issue 2, May 2026
Journal Homepage:
http://pusdikra-publishing.com/index.php/jetl

The Nexus of Perceived Test Validity and Test Fairness on Students Mental Well-Being in Learning Outcomes

Muhammad Bukhori Dalimunthe[1], Deni Adriani[2], Dhea Yurike Silaban[3], Rani Selfia Sipayung[4], Ruhama Girsang[5]
[1,2,3,4,5] *Universitas Negeri Medan, Indonesia*
Corresponding Author : daliori86@unimed.ac.id

ARTICLE INFO
Article history:
Received
18 March 2026
Revised
12 April 2026
Accepted
06 May 2026

ABSTRACT

This study aims to examine the effect of students' perceptions of test validity and fairness on their mental well-being in the context of learning outcomes. The background of this study is based on the increasing academic pressure originating from evaluation systems and the importance of students' psychological well-being as a foundation for effective learning. The approach used is quantitative with a multiple linear regression method. The population of this study is all tenth-grade students of SMA Negeri 1 Silimakuta, with a sample of 32 respondents selected through a non-probability sampling technique. The research instrument is a five-level Likert-scale questionnaire consisting of 18 statement items. The analysis results show that partially, perceived test validity has a significant effect on students' mental well-being (t stat=5.246 > t table=2.04; sig.=0.000). On the contrary, perceived test fairness does not show a significant effect (t stat=-1.068 < t table=2.04; sig.=0.294). However, simultaneously both variables have a significant effect on students' mental well-being (F stat=22.435 > F table=3.33; sig.=0.000) with a contribution of 60.7% (R square=0.607). These findings indicate that an evaluation system that is valid and perceived as fair together is able to create a learning environment that supports students' psychological well-being. Thus, this study emphasizes the importance of designing learning outcomes that not only fulfills psychometric aspects but also pays attention to the emotional and psychological impacts of learners.

Key Word *Perceived Test Validity, Test Fairness, Students' Mental Well-Being, Learning Outcomes.*

How to cite https://pusdikra-publishing.com/index.php/jetl

INTRODUCTION

Academic pressure originating from learning evaluation systems has become a global phenomenon that is increasingly concerning the world of education. Various international studies show that educational orientation that is too focused on cognitive achievement through a series of tests and examinations tends to ignore the psychological well-being of learners. Reports from the Organization for Economic Co-operation and Development (OECD)

reveal that students in countries with high-stakes evaluation systems experience higher levels of academic anxiety, which in turn negatively impacts their learning motivation and mental health (Johnstone, 2023). This phenomenon does not only occur in developed countries, but also becomes a serious challenge in the context of education in Indonesia.

In the national context, the implementation of the Merdeka Curriculum, which provides flexibility for educational units in designing learning, actually presents new challenges related to evaluation systems (Maipita et al., 2021). Although this curriculum aims to develop students' independence and adaptability, the demands to achieve learning outcomes through various forms of assessment remain a source of psychological pressure that cannot be ignored. Based on initial observations at SMA Negeri 1 Silimakuta, it was found that most students experience anxiety before exams, feel burdened by the assessment system, and show symptoms of academic stress indicating disruption of their mental well-being. In fact, students' mental well-being is an important foundation for the creation of effective and meaningful learning processes.

The urgency of research regarding the relationship between perceptions of learning evaluation and students' mental well-being is increasingly strengthened along with growing awareness that educational success is not solely measured from academic achievement, but also from students' psychological conditions during the learning process. Hascher & Mori (2023) emphasize that a positive learning environment, including a clear and transparent evaluation system, has a significant contribution to students' psychological well-being at school. However, research that specifically examines how students' perceptions of test validity and fairness affect their mental well-being is still very limited, especially in the context of secondary education in Indonesia.

Several previous studies have examined aspects of fairness and validity in learning evaluation. Panadero et al. (2018) in their study on formative assessment found that assessment systems that are clear and relevant to learning objectives can increase student engagement and provide a more positive evaluation experience. Darabi Bazvand & Rasooli (2022) explain that fairness in assessment is related to transparency of evaluation procedures, consistency of assessment, and clarity of criteria used by teachers. Meanwhile, (Hascher & Mori, 2023) show that teacher and student well-being at school is influenced by various factors, including the quality of interaction and the evaluation system implemented. These three studies provide an important foundation that aspects of validity and fairness in evaluation play a role in shaping students' learning experiences, although they have not explicitly linked them to mental well-being.

The theoretical framework relevant to understanding the relationship between learning evaluation and students' mental well-being is the theory of psychological well-being developed by Oishi & Westgate (2022) as well as the concept of procedural justice in the context of education. Test validity refers to the extent to which an evaluation instrument can measure what it is supposed to measure, while test fairness relates to students' perceptions regarding the suitability of material, clarity of assessment, and equal treatment for all students. When students perceive that the tests given are valid and fair, they tend to develop self-confidence, reduce anxiety, and ultimately experience better mental well-being in the learning process.

In the field of education, learning outcomes are defined as a series of planned activities aimed at collecting and processing information to assess the achievement of instructional objectives. Phafiandita et al. (2022) explains that the scope of evaluation includes measuring the effectiveness of the teaching and learning process, documenting student development, and determining graduation standards. Thus, evaluation does not merely function as a final measurement tool but becomes an integral part of a continuous learning cycle.

Meanwhile, within the framework of the Merdeka Curriculum emphasize that the assessment approach shifts from purely outcome-oriented to appreciating the learning process, highlighting differentiation principles according to the needs and potential of each learner (Dalimunthe et al., 2024). This paradigm shift carries important consequences, as stated by Lister et al. (2023), that assessment designs which ignore students' psychological aspects may become a source of pressure that hinders mental well-being during the learning process.

Conceptually, validity in educational measurement is understood as the degree of accuracy of an instrument in representing the construct it intends to measure. Azwar (2019) explains that validity is not a single entity, but consists of several complementary types: content validity, construct validity, and criterion validity. Beyond these technical dimensions, contemporary studies also highlight consequential validity, namely the extent to which the use of a test instrument produces desired social and psychological impacts for students and educational institutions (Ida & Musyarofah, 2021).

In the classroom context, perceived test validity describes how students assess the alignment between test items and what they have learned. Rasooli et al. (2023) show that students' evaluation of assessment quality directly affects their emotional responses, motivation, and engagement in learning. Students who perceive tests as inaccurate or irrelevant tend to experience frustration and

distrust toward the assessment system. Conversely, belief in test validity strengthens confidence and reduces anxiety.

The mental well-being of students in a school environment is understood as a psychological state that enables individuals to function optimally, not merely free from mental disorders, but also capable of growth, a sense of meaning, and constructively facing academic challenges. Its theoretical foundation rests on Oishi & Westgate (2022) model of psychological well-being, which defines well-being through six interrelated dimensions: self-acceptance, positive relationships with others, autonomy in decision-making, ability to manage the environment, clarity of life goals, and openness to personal growth. To operationalize it in the school context, Renshaw et al. (2015) developed the Student Subjective Well-being Questionnaire (SSWQ), which measures four main components: a sense of connection to the school community, enjoyment of the learning process, meaningfulness of educational goals, and confidence in one's own academic abilities.

Students' mental well-being is not formed in a single instance but is influenced by various interacting factors. Hascher & Mori (2023) highlight that a conducive learning climate, including a clear and open evaluation system, is one of the pillars supporting students' psychological well-being in schools. Similarly, Clarke & McLellan (2024) demonstrated that assessment intensity and format significantly impact students' emotional well-being; while Monzonís-Carda et al., (2025) emphasized that a high level of psychological well-being contributes to higher academic achievement. Regarding test anxiety, Lister et al. (2023) noted that low-stakes, feedback-rich assessment formats have been shown to effectively reduce student anxiety levels and foster more sustained learning motivation.

The relationship between perceived test validity and student mental well-being can be explained through two complementary theoretical frameworks: self-determination theory and attribution theory. From a self-determination perspective, students who perceive tests as aligned with their learning experiences will perceive their efforts as meaningful and purposeful, thus positively impacting their psychological well-being. Conversely, based on attribution theory, when tests are perceived as not reflecting their true abilities, students tend to interpret failure as a result of factors beyond their control, which in turn triggers feelings of helplessness, increased anxiety, and decreased self-efficacy. Panadero et al. (2018) provide empirical evidence that assessment instruments that feel relevant and meaningful to students can encourage active engagement and create a more enjoyable evaluation experience.

Meanwhile, the relationship between test fairness and mental well-being is based on the principle of procedural justice, which emphasizes that individuals

evaluate not only what they receive but also how they receive it. Zhang et al. (2024) demonstrated that high perceptions of fairness in the academic environment are closely related to reduced stress experienced by students. However, the strength of this relationship is not uniform; factors such as personality characteristics, school cultural norms, and classroom social dynamics can weaken or strengthen this effect. This explains why several studies have found mixed results regarding the significance of test fairness on student mental well-being. Overall, a well-designed evaluation system—combining high validity with fair and transparent procedures—has been shown to be an essential foundation for creating a learning climate that supports optimal student psychological development (Daniels et al., 2026; Hascher & Mori, 2023).

Based on the description above, this study aims to: (1) analyze the effect of perceived test validity on students' mental well-being; (2) analyze the effect of perceived test fairness on students' mental well-being; and (3) analyze the simultaneous effect of perceived test validity and test fairness on students' mental well-being in learning outcomes at SMA Negeri 1 Silimakuta.

RESEARCH METHOD

This study used a quantitative approach with multiple linear regression analysis to determine the effect of perceived test validity and fairness on students' mental well-being. This quantitative approach was chosen because this study aimed to objectively examine the relationship between variables through statistical analysis. The study was conducted at SMA Negeri 1 Silimakuta, Simalungun Regency, North Sumatra. The study was conducted in March 2026, with questionnaires distributed in March until April 2026.

The population in this study was all 10th-grade students of SMA Negeri 1 Silimakuta. The study sample consisted of 32 respondents, obtained through a non-probability sampling technique by distributing an online questionnaire link to several 10th-grade students via *google forms*. This technique was used to simplify the data collection process and allow respondents to complete the questionnaire independently.

The variables in this study consisted of two independent variables and one dependent variable. The independent variables were perceived test validity (X1) and test fairness (X2), while the dependent variable was student mental well-being (Y). Perceived test validity refers to students' views on the extent to which a given test can measure the abilities it is intended to measure. Test fairness relates to students' perceptions of fairness in the learning evaluation process, such as the appropriateness of the material, clarity of assessments, and equal treatment for all students. Meanwhile, student mental well-being describes the

psychological state of students related to their comfort, confidence, and emotional state during the learning process.

The research instrument used was a closed-ended questionnaire with a five-level Likert scale, with a score of 1 for strongly disagree and a score of 5 for strongly agree. The questionnaire consisted of 18 statements, with each variable having six questions.

Data analysis was performed using SPSS. The data analysis stages included classical assumption tests, namely the normality test, multicollinearity test, and heteroscedasticity test to ensure that the data met the requirements for regression analysis (Ghozali, 2018). Next, multiple linear regression analysis was conducted to determine the effect of the independent variables on the dependent variable. Hypothesis testing was conducted using a t-test to determine the partial effect of each variable and an F-test to determine the simultaneous effect of the variables (Watkins, 2021).

RESULT AND DISCUSSION

Normality Testing

A normality test was conducted to determine whether the residual data in the regression model was normally distributed. The test was conducted using the One-Sample Kolmogorov–Smirnov method with the help of the SPSS program. Based on the test results, a significance value of 0.200 was obtained. This value is greater than 0.05, so it can be concluded that the residual data in this study is normally distributed. Therefore, the regression model meets the assumption of normality (see Tabel 1).

Table 1.
Normality Test

Variable	Test Method	Sig.	Information
Regression Residual	Kolmogorov-Smirnov	0,200	Normally distributed

Multicollinearity Testing

A multicollinearity test is performed to determine whether there is a high correlation between the independent variables in a regression model. A good regression model should not experience multicollinearity. The test results show that each independent variable has a Tolerance value of 0.454 and a VIF value of 2.201. The tolerance value is greater than 0.10 and the VIF value is less than 10, so it can be concluded that there is no multicollinearity in the regression model (see Tabel 2).

Table 2.
Multicollinearity Test

Variable	Tolerance	VIF	Information
Perceived Test Validity	0,454	2,201	reject
Test Fairness	0,454	2,201	reject

Heteroscedasticity Testing

The heteroscedasticity test aims to determine whether there is inequality in the variance of the residuals in the regression model. The test is conducted using the Glejser method (see Tabel 3).

Table 3.
Heteroscedasticity Test

Variable	Sig.	Information
Perceived Test Validity	0,444	reject
Test Fairness	0,302	reject

Hypothesis Testing

The hypothesis testing in this study was conducted to determine the effect of perceived test validity and fairness on students' mental well-being in learning evaluations. The testing was conducted using multiple linear regression analysis with the help of SPSS (see Tabel 4).

Table 4.
T-Test

Variable	t stat	t table	Sig.	Information
Perceived Test Validity	5,246	2,04	0,000	accept
Test Fairness	-1,068	2,04	0,294	reject

The t-test results show that the Perceived Test Validity variable has a calculated t-value of 5.246, which is greater than the t-table value of 2.04, and a significance value of 0.000, which is less than 0.05. This indicates that Perceived Test Validity significantly influences students' Mental Well-Being. Meanwhile, the Test Fairness variable has a calculated t-value of -1.068, which is less than the t-table value of 2.04, and a significance value of 0.294, which is greater than 0.05. Therefore, it can be concluded that Test Fairness does not significantly influence students' Mental Well-Being (see Tabel 5).

Table 5.
F-Test

F stat	F table	Sig.	Information
22,435	3,33	0,000	accept

Based on the results of the F test, the calculated F value was 22.435, which was greater than the F table of 3.33, with a significance value of 0.000, which was less than 0.05. This indicates that Perception of Test Validity and Test Fairness together had a significant influence on students' Mental Well-being (see Tabel 6).

Table 6.
Coefficient of Determination

Model	R	R Square	Adjusted R Square
1	0,779	0,607	0,580

Based on the results of the multiple linear regression analysis shown in the coefficient of determination table, an R-square value of 0.607 was obtained. This value indicates that the variables perceived test validity and test fairness can explain 60.7% of the variation in student mental well-being. Meanwhile, the remaining 39.3% is influenced by factors outside the research model that were not examined, such as the learning environment, academic pressure, social support, and other psychological factors that can affect student mental well-being. The adjusted R-square value of 0.580 indicates that after adjusting for the number of independent variables in the model, the variables perceived test validity and test fairness remain in the moderately strong category in explaining student mental well-being.

Discussion

The results of the study indicate that perceived test validity has a significant influence on students' mental well-being. This is demonstrated by the calculated t-value of 5.246, which is greater than the t-table value of 2.04, with a significance value of 0.000, which is less than 0.05. This finding suggests that the more positive students' perceptions of test validity, the better their mental well-being in facing the learning evaluation process.

Students generally perceive tests as valid when they are appropriate to the learning material and accurately measure their abilities. This can increase student confidence and reduce anxiety during learning evaluations (Sudianto et al., 2025). These results align with research by Panadero et al. (2018), which states that a clear and relevant assessment system aligned with learning objectives can

increase student engagement and provide a more positive evaluation experience in the learning process.

These findings align with research suggesting that valid learning outcomes can enhance students' learning experiences and reduce psychological stress that arises during the assessment process. Assessments aligned with learning objectives help students understand their abilities more objectively, thereby improving learning motivation and mental well-being within the school environment. Thus, students' perceptions of test validity play a crucial role in creating a learning evaluation process that is not only academically accurate but also supports students' psychological well-being.

Meanwhile, the study results showed that test fairness did not significantly impact students' mental well-being, as indicated by a calculated t-value of -1.068, which is smaller than the t-table of 2.04, with a significance value of 0.294, which is greater than 0.05. This suggests that students' perceptions of evaluation fairness do not directly impact their mental well-being. This is likely influenced by other, more dominant factors determining student mental well-being, such as academic pressure, social relationships at school, and the learning environment.

Nevertheless, previous research indicates that perceptions of evaluation fairness remain a crucial aspect of educational assessment systems. Darabi Bazvand & Rasooli (2022) explain that assessment fairness relates to the transparency of evaluation procedures, the consistency of assessment, and the clarity of the criteria used by teachers to assess student learning outcomes. Various previous studies have also shown that fairness in learning evaluation remains a crucial aspect of the education system. Perceptions of fairness in assessment can be influenced by the transparency of the assessment process, the appropriateness of evaluation procedures, and communication between teachers and students regarding assessment criteria. When an evaluation system is perceived as fair, students tend to have a more positive attitude towards the learning process.

The differences between the results of this study and several previous studies indicate that the relationship between evaluation fairness and student mental well-being can be influenced by the educational context, student characteristics, and the learning environment at each school.

Simultaneously, the results show that perceptions of test validity and test fairness jointly have a significant effect on student mental well-being. This finding suggests that the overall quality of the learning evaluation system can influence students' learning experiences, including psychological aspects such as self-confidence and comfort in participating in the learning process.

This finding also aligns with research by Hascher & Mori (2023), which shows that a positive learning environment, including a clear and transparent evaluation system, contributes to students' psychological well-being in schools. The overall quality of learning evaluations influences students' psychological well-being during the learning process. Learning evaluations not only serve as a tool to measure students' academic abilities but can also influence their learning experiences emotionally and psychologically.

In the educational context, a good evaluation system should not only emphasize measuring learning outcomes but also consider its impact on student well-being. Valid tests and clear evaluation procedures can help create a more positive learning environment and support students' academic and psychological development. Furthermore, the results of the coefficient of determination analysis indicate that perceptions of test validity and fairness explain 60.7% of the variation in student mental well-being, with the remainder influenced by factors outside the research model. This suggests that the learning evaluation system is a significant factor in influencing student mental well-being in the school environment.

CONCLUSION

Perceptions of test validity have been shown to significantly influence students' mental well-being. This is indicated by the calculated t-value of 5.246, which is greater than the t-table value of 2.04 with a significance level of 0.000. This means that the more students perceive tests as measuring tools that are appropriate to the learning material and capable of accurately measuring their abilities, the better their mental well-being.

Perceptions of test fairness did not significantly influence students' mental well-being. The calculated t-value of -1.068 is smaller than the t-table value of 2.04 with a significance level of 0.294. This indicates that students' perceptions of the fairness of evaluation procedures do not directly influence their psychological well-being. It is likely that other factors such as academic pressure, social support, or the learning environment are more dominant in determining students' mental well-being. Simultaneously, perceptions of test validity and test fairness significantly influenced students' mental well-being. The F-test results showed a calculated F-value of 22.435, which is greater than the F-table value of 3.33, with a significance level of 0.000. Together, these two variables explained 60.7% of the variation in students' mental well-being, while the remaining 39.3% was influenced by factors outside the model.

Theoretically, this study reinforces the findings of educational psychology that learning evaluations not only serve as a measure of academic achievement

but also have emotional and psychological impacts. Practically, teachers and policymakers are advised to design valid, transparent, and communicative evaluation systems to support students' mental well-being. Future research could explore other factors such as social environment, teacher support, or student coping strategies that might moderate the relationship between perceived evaluation and mental well-being.

REFERENCES

Azwar, S. (2019). Reliabilitas dan validitas. In *Yogyakarta: pustaka pelajar* (Edisi 4). Pustaka Pelahar. https://onesearch.id/Record/IOS2785.slims-43454

Clarke, T., & McLellan, R. (2024). Associations between children's school wellbeing, mindset and academic attainment in standardised tests of achievement. *School Psychology International*, *45*(4), 409–446. https://doi.org/https://doi.org/10.1177/01430343231215836

Dalimunthe, M. B., Dewi, R., & Haryadi. (2024). *Evaluasi Pembelajaran Ekonomi dan Bisnis*. Pustaka Pratama.

Daniels, L. M., Wells, K., Lindner, M. A., Beeby, A. M., & Daniels, V. J. (2026). Satisfaction and Frustration of Basic Psychological Needs in Classroom Assessment. *Trends in Higher Education*, *5*(1), 15. https://doi.org/https://doi.org/10.3390/higheredu5010015

Darabi Bazvand, A., & Rasooli, A. (2022). Students' experiences of fairness in summative assessment: A study in a higher education context. *Studies in Educational Evaluation*, *72*, 101118. https://doi.org/https://doi.org/10.1016/j.stueduc.2021.101118

Ghozali, I. (2018). *Aplikasi analisis multivariate dengan program IBM SPSS 25*.

Hascher, T., & Mori, J. (2023). Teacher and student well-being: Theoretical reflections and perspectives. In *Motivation and emotion in learning and teaching across educational contexts* (1st Edition, pp. 114–127). Routledge. https://doi.org/https://doi.org/10.4324/9781003303473

Ida, F. F., & Musyarofah, A. (2021). Validitas dan reliabilitas dalam analisis butir soal. *Al-Muarrib Journal of Arabic Education*, *1*(1), 34–44. https://doi.org/https://doi.org/10.32923/al-muarrib.v1i1.2100

Johnstone, I. (2023). Organisation for Economic Co-operation and Development (OECD). *Yearbook of International Environmental Law*, *34*(1), yvae026. https://doi.org/10.1093/yiel/yvae026

Lister, K., Andrews, K., Buxton, J., Douce, C., & Seale, J. (2023). Assessment, life circumstances, curriculum and skills: Barriers and enablers to student mental wellbeing in distance learning. *Frontiers in Psychology*, *14*. https://doi.org/10.3389/fpsyg.2023.1076985

Maipita, I., Dalimunthe, M. B., & Sagala, G. H. (2021). *The Development Structure of the Merdeka Belajar Curriculum in the Industrial Revolution Era BT - Proceedings of the International Conference on Strategic Issues of Economics, Business and, Education (ICoSIEBE 2020)*. 145–151. https://doi.org/https://doi.org/10.2991/aebmr.k.210220.026

Oishi, S., & Westgate, E. C. (2022). A psychologically rich life: Beyond happiness and meaning. *Psychological Review*, *129*(4), 790. https://doi.org/https://doi.org/10.13129/2282-1619/mjcp-3589

Panadero, E., Andrade, H., & Brookhart, S. (2018). Fusing self-regulated learning and formative assessment: a roadmap of where we are, how we got here, and where we are going. *The Australian Educational Researcher*, *45*(1), 13–31. https://doi.org/10.1007/s13384-018-0258-y

Phafiandita, A. N., Permadani, A., Pradani, A. S., & Wahyudi, M. I. (2022). Urgensi evaluasi pembelajaran di kelas. *JIRA: Jurnal Inovasi Dan Riset Akademik*, *3*(2), 111–121. https://doi.org/https://distantreader.org/stacks/journals/jira/jira-262.pdf

Rasooli, A., Zandi, H., & DeLuca, C. (2023). Measuring Fairness and Justice in the Classroom: A Systematic Review of Instruments' Validity Evidence. *School Psychology Review*, *52*(5), 639–664. https://doi.org/10.1080/2372966X.2021.2000843

Renshaw, T. L., Long, A. C. J., & Cook, C. R. (2015). Assessing adolescents' positive psychological functioning at school: Development and validation of the Student Subjective Wellbeing Questionnaire. *School Psychology Quarterly*, *30*(4), 534–552. https://doi.org/https://doi.org/10.1037/spq0000088

Sudianto, D. A., Maipita, I., & Dalimunthe, M. B. (2025). Pengembangan instrumen asesmen high order thinking skills (HOTS) berbasis computerized assisted test (CAT) untuk meningkatkan hasil belajar pada mata pelajaran ekonomi. *SCHOULID: Indonesian Journal of School Counseling*, *10*(1), 114–141. https://doi.org/10.23916/085766011

Watkins, M. W. (2021). *A step-by-step guide to exploratory factor analysis with SPSS*. Routledge. https://doi.org/https://doi.org/10.4324/9781003149347

Zhang, W., Yan, W., Jin, P., & Wei, Y. (2024). Unveiling the impact of school organizational justice on students' professional commitment through academic stress mediation. *Scientific Reports*, *14*(1), 23704. https://doi.org/10.1038/s41598-024-73174-5