

INTERPERSONAL INTELLIGENCE AMONG 4–5 YEAR-OLDS IN BANTEN PROVINCE: THE ROLE OF NUTRITION AND MENTAL HEALTH

Fitri Laila Suwardi^{1✉}, Debie Susanti²

^{(1) (2)} Program Pascasarjana Pendidikan Anak Usia Dini, Universitas Panca Sakti Bekasi

DOI: 10.29313/ga:jpaud.v7i1.11762

Abstract

The purpose of this article is to examine the relationship between children's diet and their social and emotional well-being in Banten Province, focusing on kids aged four to five. This definitive study employed a methodology known as causality research. Interpersonal intelligence (Y) served as the dependent variable, while dietary intake (X1) and psychological well-being (X2) served as the independent variables. The participants or subjects of this study are all PAUD teachers in Pandeglang Regency, Banten Province, whether they are employed in a formal or informal setting. include the 1,469 teachers working in preschools, daycares, and kindergartens. For this study, we used multistage cluster random sampling to collect data from the minimum number of participants required by the Slovin formula ($n=94$). According to the findings, children's nutritional status significantly affects their interpersonal intelligence development, mental health significantly influences children's interpersonal intelligence development, and both factors significantly affect children's interpersonal intelligence development. An adjusted R2 score of 0.808 indicates that the relationship between children's nutritional state and mental health and their interpersonal IQ is robust.

Keywords: Nutritional Status; Mental health; Child Interpersonal Intelligence.

Copyright (c) 2023 Fitri Laila Suwardi, Debie Susanti.

✉ Corresponding author :

Email Address : vthreeid77@gmail.com

Received April 14, 2023, Accepted July 18, 2023. Published July 22, 2023.

INTRODUCTION

Child health problems are one of the main problems in the health sector that are currently happening in Indonesia. The degree of children's health reflects the health status of the nation because children, as the nation's next generation, have abilities that can be developed in continuing the nation's development (Marcdante, 2014). Intelligence is one indicator of the quality of human resources. One aspect of intelligence that influences a child's success is cognitive ability. Cognitive abilities are influenced by internal and external factors. Internal factors cannot form intelligence without external factors. To develop children's cognitive abilities, they need to be stimulated from an early age. Stimulation can be obtained from the environment, both within the family and outside the family. The tendency for the prevalence of children's intelligence to increase can have an impact on hampering children's ability to master the learning objectives they must achieve, which will ultimately affect the quality of their learning outcomes. Adequate nutrition for children is needed; it is not only healthy but also helps improve children's intelligence (Paramitha, 2017).

Cases of malnutrition can be caused by a child's inadequate food intake, so he cannot meet nutritional needs for activities and development (Kemenkes RI et al., 2017). Based on data from the 2021 Indonesia Nutrition Status Survey, Pandeglang Regency in Banten Province has the highest stunting rate in the country. The region as a whole now has a stunting rate of 37.80 percent. The provinces of Lebak and Serang rank second and third, with 27.30 percent and 27.20 percent of children suffering from stunting, respectively. The stunting rate in South Tangerang City, Cilegon City, Tangerang Regency, and Serang City is 19.90%, 20.60%, 23.30%, and 23.40%, respectively, in 2021. Among all cities in the province of Banten, Tangerang City has the lowest malnutrition rate. Stunting affects 15.30% of urban children, according to official statistics. (SSGI, 2021).

Mental health is considered a public health problem and studies in this area are aimed at preventing and improving mental health at this stage of life (Mihalca & Tarnavska, 2013; Ortuño-Sierra et al., 2018). Several studies exploring the relationship between interpersonal intelligence to mental health among early childhood have found a significant relationship between interpersonal intelligence and scores on the mental health scale and subscales (Billingham, 2019). Shabani dan Damavandi (Shabani & Damavandi, 2011) found that student's mental health can be predicted by intelligence with the interpersonal intelligence predictor variable explaining around 35.7% of the mental health variance. Other studies have revealed a significant relationship between interpersonal intelligence and mental health problems (Mamun et al., 2022). Childhood is a critical period and requires the development of social skills.

A child's growth and social adaptation depend heavily on his or her level of interpersonal intelligence. But without practice, a lack of interpersonal intelligence can lead to disruptive actions. This is because those with low EQ are less likely to work well in teams, have a narrower focus on their own goals, are less tolerant of failure, and are more likely to resort to dishonorable behavior to attain their objectives. Kids who don't learn to get along with others will have a hard time in the real world. A lack of EQ in the classroom might lead to disinterest and a lack of motivation in learning. Students who have difficulty with interpersonal intelligence are more likely to be disengaged, disregarded, and unable to make meaningful contributions to group projects and debates in the classroom. (Oktaria & Anggraeni, 2017).

Students who eat well do better in the classroom and have better social skills. On the flip side, a person's EQ might take a hit if they don't get enough of the right nutrients, leading to less social maturity and academic failure. (Azijah & Adawiyah, 2021). Factors like self-control, efficiency, and threat litigation that mental health is tied to risk all contribute to a person's capacity for intrapersonal resilience. (Curry & Youngblade, 2006; Gordon Rouse et al., 1998; Markey et al., 2006; Windle & Windle, 2001). The individual's ability to solve intrapersonal problems and be able to control the conflicts he feels will be free from psychological disturbances that arise in a person's behavior and can show a person's level of psychological well-being.

Previous research on the relationship between nutritional status and child development. Some research (Black et al., 2013; Grantham-McGregor et al., 2007; Islam, 2018; Rahman & Chowdhury, 2007) demonstrates that children's physical and mental growth, including their ability

to interact with others, can be negatively impacted by a lack of proper nutrition. Furthermore, studies have shown that kids with mental health issues have a harder time interacting socially.

Research on interpersonal intelligence in early childhood. Some research (Bardack, 2021; Pons & Harris, 2005; Rhoades et al., 2011; Trentacosta & Izard, 2007) showed that interpersonal intelligence in children can be influenced by factors such as the family environment, social interactions, and the child's emotional state. However, research that focuses on the relationship between nutritional status, mental health, and the development of interpersonal intelligence in children aged 4-5 years is still limited.

Research linking nutritional status and mental health with the development of interpersonal intelligence in children. Some research like indicates that nutritional status (J. R. Galler et al., 2010; Janina R. Galler et al., 2011; Grantham-McGregor et al., 2007) and good mental health can affect interpersonal development in children, including their ability to communicate, empathize, and cooperate with others.

This study intends to combine the results of various studies to learn more about how children's nutritional state, mental health, and the growth of their interpersonal intelligence are all connected. It is intended that by conducting this study, new insights into the elements that influence children's interpersonal development in early childhood would be uncovered, which will in turn aid parents, educators, and health professionals in fostering children's healthy growth during these formative years.

METHODOLOGY

This study is conclusive research, meaning it was designed to aid decision-makers in determining, evaluating, and selecting the most appropriate course of action to be taken under the circumstances. This conclusive research employed the method of a 'causality' study. According to Sugiyono (2018), causal relationships are those that function as both cause and effect. So there are both independent variables (those that can act on their own) and dependent variables here. (Sugiyono, 2018).

The research variables in this study, namely the independent variables used in this study, were nutritional status (X1) and mental health (X2), and the dependent variable used in this study was interpersonal intelligence (Y). The population of oof targetsin this study are all formal and non-formal PAUD educators in Pandeglang Regency, Banten Province. Includes: educators from kindergarten, playgroup, similar PAUD units, and child care centers. In multistage cluster random sampling, the primary group of the study population was divided by district in Banten Province, namely 7 groups consisting of Tangel City, South Tangerang City, Tangerang City, Cilegon City, and Kab. Tangerang, Kab. Serang, Pandeglang, and Kab. Lebak. The primary group sample was taken using cluster sampling; the selected cluster was Pandeglang Regency, so the population for the primary group was all educators from the type of education services in Pandeglang Regency, totaling 1,469 people.

From the primary groups, samples were divided into secondary groups, and then secondary group samples were drawn. The secondary groups in this study were divided based on the sub-districts in the Pandeglang district. The sample was determined using the multi-cluster random sampling technique so that the minimum number of research samples was obtained according to the calculation of the Slovin formula, namely 94 people.

The data obtained by researchers from the questionnaire results are raw data that need to be processed further. Data processing was carried out with the help of SPSS (Statistic Product Service Solution) software in this study to obtain answers from the results of the questionnaire. Respondents presented statements about nutritional status, mental health, and interpersonal intelligence.

The method of evaluating the results of the questionnaire answers in this study was carried out using a Likert scale and calculated using the IBM SPSS Statistics Version 22 program. Likert scale, namely where respondents stated their level of agreement or disagreement regarding various statements about behaviorobjects, people, or events. With a Likert scale, the measured variables are translated into variable indicators, and then these indicators are used as a starting point for

compiling instrument items, which can be in the form of statements or questions. The Likert scale is used to measure attitudes, opinions, and perceptions of a person or group of people about social phenomena. The type of data used is subjective data, such as opinions or statements from a person or group of people who are research subjects or respondents. Secondary data in this study were obtained by studying related books and literature. The researcher also made indirect quotations from the theories as the basis for this final project's research.

A multiple regression analysis techniques used to determine the effect of nutritional status and mental health on the interpersonal intelligence of children aged 4-5 years in Banten Province. With the regression equation $Y = a + b_1X_1 + b_2X_2$, The hypothesis testing technique uses partial tests and simultaneous tests with probability techniques, comparing the Sig probability value with a significance level of 0.05. If the probability value is sig < 0.05 , then it is significant.

Table 1. Instrument Grid

Dimension	Indicator	Item	Total Item
Nutritional status			
Anthropometry	1. Child Weight	-	-
	2. Child's Height		
	3. Body mass index (BMI) of children		
Child Mental Health			
Emotional symptoms/ E	1. Often complain of pain	3,8,13,16,24	5
	2. Often Worry		
	3. Often crying / sad		
	4. Nervous/insecure		
	5. Easy to be afraid		
Conduct Issues / C	1. Difficulty controlling anger	5,7,12,18,22	5
	2. Be well behaved/obedient		
	3. Frequent fighting/intimidating		
	4. Often lying/cheating		
	5. Steal		
Hyperactivity/ H	1. restless/unable to stay still for long	2,10,15,21,25	5
	2. hyperactive/continuous movement		
	3. unable to concentrate		
	4. Before acting, always think about the consequences		
	5. have good attention to anything		

Relationship problems with peers/ P	1. tends to be aloof	6,11,14,19	5
	2. have one or more good friends		
	3. In general, other children prefer		
	4. bullied/threatened by another child		
	5. easier to make friends with adults		
Prosocial Behavior / Pr	1. can care about the feelings of others	1,4,9,17,20	5
	2. Willing to share with other children		
	3. Helpful		
	4. be kind to younger children		
	5. often helping others		
Interpersonal Intelligence			
Respect for others	Sensitivity towards the attitudes & behaviors of others	1,9,17	3
	The ability to behave in self-control.	2,10,18,24	4
	The ability to see things from another person's point of view	3,11	2
Cooperate with others	The ability to organize others	4,12,19,25	4
	Play together	5,13,20	3
	Ability to communicate with others	6,14,21,26,29	5
Be sympathetic towards others	Responding to the feelings of others	7,15,22,27,30	5
Be empathetic towards others	Friendliness attitude	8,16,23,28	4

RESULTS AND DISCUSSION

The researcher made sure the questionnaire's statement items were accurate before beginning the study. To gauge the reliability and validity of the statement items used to assess parenting styles and students' resilience, a validity test was conducted. Three highly qualified experts will do the validity analysis.

Table 2 Summary of Instrument Validation Results by Experts

No.	Rated aspect	Assessment Criteria	Expert			Score	Average of each Aspect	Criteria
			1	2	3			
1	Clarity	Clarity of questionnaire title	4	5	4	13	0.93	High Validity
		Clarity of statement items	5	5	4	14		
		Clarity of questionnaire filling instructions	5	5	5	15		
2	Content Accuracy	Accuracy of statements with expected answers	4	4	4	12	0.8	High Validity
		Statements relating to research objectives	5	5	4	14		
3	Relevance	Statement in accordance with the aspect to be achieved	4	5	4	13	0.9	High Validity
4	Content Validity	Statement of disclosing true information	4	4	3	11	0.73	High Validity
5	No Bias	The statement contains one complete idea	4	5	3	12	0.8	High Validity
		The language used is easy to understand	4	4	4	12		
6	Language Accuracy	Languages used effectively	4	5	4	13	0.86	High Validity
		Writing in accordance with EYD	5	4	5	14		

Table 2 summarises the findings of the performance evaluations conducted by the four evaluators. Factors such as clarity, content accuracy, relevance, content validity, lack of bias, and linguistic accuracy will be considered during the evaluation process. Based on the data presented in Table 3, it appears that the instrument can be utilized with confidence thanks to the high validity obtained by expert judgment. With the use of the Intraclass Correlation Coefficient, we can determine the level of agreement (reliability) between the three raters. Table 3 displays the results of the computations (with the aid of SPSS Program version 16).

Table 3 Reliability Test Intraclass Correlation Coefficient Expert Validation
Intraclass Correlation Coefficient

	Intraclass Correlation	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.115 ^b	-.118	.526	1.519	9	27	.191
Average Measures	.922 ^c	-.731	.816	1.519	9	27	.191

From tTable3 it can be seen that the results of the ICC calculations using SPSS v.16 are obtained. The results of the analysis show that the average agreement among raters is 0.115 while for raters the consistency is 0.942, which means it has high stability (Streiner & Norman, 2008; Yudha, 2020).

Regression analysis in this study aims to obtain the hypothesized results of the hypotheses, namely the effect of nutritional status, and mental health on the development of children's interpersonal intelligence. The results of calculations for multiple linear regression analysis in this study can be seen in Table 4.

Table 4 Multiple Linear Regression Results

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	6.604	2.735		2.414	.021
	Nutritional status	.675	.089	-.007	-.056	.955
	Mental health	.036	.103	.055	.345	.732

a. Dependent Variable: The Development of Children's Interpersonal Intelligence

Multiple Regression Equations

Based on Table 4 above, the regression equation is obtained:

$$Y = a + b_1 X_1 + b_2 X_2 + \epsilon$$

$$Y = 6,604 + 0,675X_1 + 0,036X_2$$

- Based on the results of the equation above, it can be concluded as follows:
- A constant value of 6.604 indicates that if there is no increase in the variable nutritional status and mental health, then the development of the child's interpersonal intelligence is 0.672.
- Nutritional status (X_1) has a positive effect on the development of children's interpersonal intelligence (Y) with a regression coefficient of 0.675. The existence of this positive relationship means that nutritional status and the development of children's interpersonal intelligence have a unidirectional relationship. This value can be interpreted that if the nutritional status variable increases by one unit, the magnitude of the development of the child's interpersonal intelligence will increase by 0.675 assuming all other independent variables are constant/fixed.
- Mental health (X_2) has a positive effect on the development of children's interpersonal intelligence (Y) with a regression coefficient of 0.036. The existence of this positive relationship means that mental health and the development of children's interpersonal

intelligence have a unidirectional relationship. The coefficient value of 0.036 means that if the mental health variable increases by one unit, the magnitude of the child's interpersonal intelligence development will increase by 0.036 assuming all other independent variables are constant/fixed.

**Table 5 Coefficient of Determination Test Results (R²)
Model Summary^b**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.907 ^a	.823	.808	1.706	2.401

a. Predictors: (Constant), status gizi dan kesehatan mental

b. Dependent Variable: perkembangan kecerdasan interpersonal anak

Based on Table 5 above, the results of the coefficient of determination in the regression model with an Adjusted R² value of 0.808 means that 80.8 percent of children's interpersonal intelligence can be explained by nutritional status and mental health. While the remaining 19.2 percent is influenced by other variables not included in this research model.

Based on the results of the research conducted, the hypothesis testing showed that nutritional status (X₁) and mental health (X₂) simultaneously (together) had an effect on resilience (Y) with the results of the analysis sig. = 0.000 < 0.05.

The results of this study are supported by research conducted by research that links nutritional status and mental health with the development of interpersonal intelligence in children. Some research (Fernald et al., 2009; Olsson et al., 2013; Swain et al., 2013) indicates that nutritional status (J. R. Galler et al., 2010; Janina R. Galler et al., 2011; Grantham-McGregor et al., 2007) and good mental health can affect interpersonal development in children, including their ability to communicate, empathize, and cooperate with others.

CONCLUSION

Based on the results of the analysis and testing of the hypotheses that have been carried out, it is concluded that there is a significant influence between nutritional status and mental health with interpersonal intelligence in children aged 4-5 years in Banten Province. The results of this study indicate that children who have good nutritional status and mental health tend to have better interpersonal intelligence as well.

This research can provide a better understanding of the importance of paying attention to nutritional status and mental health in early childhood in optimizing the development of interpersonal intelligence. These findings can also provide practical implications for parents, teachers, and health workers in providing appropriate attention and interventions to improve children's interpersonal intelligence.

REFERENCES

- Azizah, I., & Adawiyah, A. R. (2021). Faktor Yang Berhubungan Dengan Status Gizi Anak Pra Sekolah. *Jurnal Untuk Masyarakat Sehat (JUKMAS)*. <https://doi.org/10.52643/jukmas.v5i1.1090>
- Bardack, S. R. (2021). Understanding adult-child interaction quality as a context for children's self-regulatory and social development in school. *Dissertation Abstracts International: Section B: The Sciences and Engineering*.
- Billingham, K. A. (2019). Early Childhood Development. In *Developmental Psychology for the Health Care Professions*. <https://doi.org/10.4324/9780429045141-3>
- Black, R. E., Victora, C. G., Walker, S. P., Bhutta, Z. A., Christian, P., De Onis, M., Ezzati, M., Grantham-Mcgregor, S., Katz, J., Martorell, R., & Uauy, R. (2013). Maternal and child undernutrition and overweight in low-income and middle-income countries. In *The Lancet*. [https://doi.org/10.1016/S0140-6736\(13\)60937-X](https://doi.org/10.1016/S0140-6736(13)60937-X)

- Curry, L. A., & Youngblade, L. M. (2006). Negative affect, risk perception, and adolescent risk behavior. *Journal of Applied Developmental Psychology*. <https://doi.org/10.1016/j.appdev.2006.06.001>
- Fernald, L. C. H., Kariger, P., Engle, P., & Raikes, A. (2009). Examining Early Child Development in Low-Income Countries. In *Examining Early Child Development in Low-Income Countries*. <https://doi.org/10.1596/28107>
- Galler, J. R., Bryce, C. P., Waber, D., Hock, R. S., Exner, N., Eaglesfield, D., Fitzmaurice, G., & Harrison, R. (2010). Early childhood malnutrition predicts depressive symptoms at ages 11–17. *Journal of Child Psychology and Psychiatry and Allied Disciplines*. <https://doi.org/10.1111/j.1469-7610.2010.02208.x>
- Gallery, Janina R., Bryce, C. P., Waber, D. P., Medford, G., David Eaglesfield, G., & Fitzmaurice, G. (2011). Early malnutrition predicts parent reports of externalizing behaviors at ages 9–17. *Nutritional Neuroscience*. <https://doi.org/10.1179/147683011X13009738172521>
- Gordon Rouse, K. A., Ingersoll, G. M., & Orr, D. P. (1998). Longitudinal health endangering behavior risk among resilient and nonresilient early adolescents. *Journal of Adolescent Health*. [https://doi.org/10.1016/S1054-139X\(98\)00019-6](https://doi.org/10.1016/S1054-139X(98)00019-6)
- Grantham-McGregor, S., Cheung, Y. B., Cueto, S., Glewwe, P., Richter, L., & Strupp, B. (2007). Developmental potential in the first 5 years for children in developing countries. In *Lancet*. [https://doi.org/10.1016/S0140-6736\(07\)60032-4](https://doi.org/10.1016/S0140-6736(07)60032-4)
- Islam, A. (2018). Assessment of Nutritional Status and Its Determinants Among Pre-School Children Within Dalit Communities of Jessore City in Bangladesh: A Cross-Sectional Study. *International Journal of Nutrition and Food Sciences*. <https://doi.org/10.11648/j.ijnfs.20180702.14>
- Kemendes RI, Kementrian Kesehatan RI, 2017, & Kementerian Kesehatan Indonesia. (2017). Data dan Informasi Departemen Kesehatan RI Tahun 2017. *Profil Kesehatan Indonesia*.
- Mamun, M. A., Hossain, M. S., & Griffiths, M. D. (2022). Mental Health Problems and Associated Predictors Among Bangladeshi Students. *International Journal of Mental Health and Addiction*. <https://doi.org/10.1007/s11469-019-00144-8>
- Marcdante, K. at all. (2014). Ilmu Kesehatan Anak Esensial Nelson. In *Pediatric*.
- Markey, C. N., Markey, P. M., Ericksen, A. J., & Tinsley, B. J. (2006). Children's behavioral patterns, the Five-Factor model of personality, and risk behaviors. *Personality and Individual Differences*. <https://doi.org/10.1016/j.paid.2006.06.007>
- Mihalca, A. M., & Tarnavska, Y. (2013). Cognitive Emotion Regulation Strategies and Social Functioning in Adolescents. *Procedia - Social and Behavioral Sciences*. <https://doi.org/10.1016/j.sbspro.2013.06.312>
- Oktaria, R., & Anggraeni, V. (2017). KECERDASAN SOSIAL EMOSIONAL ANAK USIA 5-6 TAHUN PADA LEMBAGA PAUD DI KOTA BANDUNG. *Creative Research Journal*. <https://doi.org/10.34147/crj.v2i02.37>
- Olsson, C. A., McGee, R., Nada-Raja, S., & Williams, S. M. (2013). A 32-Year Longitudinal Study of Child and Adolescent Pathways to Well-Being in Adulthood. *Journal of Happiness Studies*. <https://doi.org/10.1007/s10902-012-9369-8>
- Ortuño-Sierra, J., Aritio-Solana, R., & Fonseca-Pedrero, E. (2018). Mental health difficulties in children and adolescents: The study of the SDQ in the Spanish National Health Survey 2011–2012. *Psychiatry Research*. <https://doi.org/10.1016/j.psychres.2017.10.025>
- Paramitha, I. A. (2017). Kecukupan Gizi Anak dan Remaja. *Convention Center Di Kota Tegal*.
- Pons, F., & Harris, P. L. (2005). Longitudinal change and longitudinal stability of individual differences in children's emotion understanding. *Cognition and Emotion*. <https://doi.org/10.1080/02699930500282108>
- Rahman, A., & Chowdhury, S. (2007). Determinants of chronic malnutrition among preschool children in Bangladesh. *Journal of Biosocial Science*. <https://doi.org/10.1017/S0021932006001295>
- Rhoades, B. L., Warren, H. K., Domitrovich, C. E., & Greenberg, M. T. (2011). Examining the link between preschool social-emotional competence and first-grade academic achievement: The role of attention skills. *Early Childhood Research Quarterly*.

<https://doi.org/10.1016/j.ecresq.2010.07.003>

- Shabani, J., & Damavandi, A. J. (2011). The importance of gender as a moderator for the relationship between emotional intelligence and mental health of adolescents. *Asian Social Science*. <https://doi.org/10.5539/ass.v7n9p142>
- SSGI. (2021). Studi Status Gizi Indonesia 2021. *Kementerian Kesehatan Republik Indonesia Badan Penelitian Dan Pengembangan Kesehatan Riset Kesehatan Nasional Studi Status Gizi Indonesia 2021 Kuesioner Individu*.
- Streiner, D. L., & Norman, G. R. (2008). Health Measurement Scales: A practical guide to their development and Use. In *Health Measurement Scales: A Practical Guide to their Development and Use*. <https://doi.org/10.1093/acprof:oso/9780199231881.001.0001>
- Sugiyono. (2018). Metode Penelitian Kuantitatif, Kualitatif dan R&D. In *Alfabeta Bandung*.
- Swain, J. E., Ho, S. S., Cerami, C., Jiang, N. M., Tofail, F., Ma, J. Z., Haque, R., Kirkpatrick, B., Nelson, C. A., Petri, W. A., Punamaki, R.-L., Isosavi, S., Qouta, S. R., Kuittinen, S., Diab, S. Y., Winston, R., Chicot, R., Andersen, K. R., Harslof, L. B. S., ... C., C. (2013). Nutrition and neurodevelopment in children: Focus on NUTRIMENTHE project. *European Journal of Nutrition*.
- Trentacosta, C. J., & Izard, C. E. (2007). Kindergarten children's emotional competence as a predictor of their academic competence in first grade. *Emotion*. <https://doi.org/10.1037/1528-3542.7.1.77>
- Windle, M., & Windle, R. C. (2001). Depressive symptoms and cigarette smoking among middle adolescents: Prospective associations and intrapersonal and interpersonal influences. *Journal of Consulting and Clinical Psychology*. <https://doi.org/10.1037/0022-006X.69.2.215>
- Yudha, R. P. (2020). Validity And Reliability Rubric Of Performance Assessment Geometry Study In Junior High School Using The Many Facet Rasch Model Approach. *Eduma : Mathematics Education Learning and Teaching*. <https://doi.org/10.24235/eduma.v9i2.7100>