



How is Student Resilience in Academic Activities? Measurement in Indonesia

Herul Wahyudin*, M. Ramli, Maria Oktasari

Universitas Negeri Malang, Jl. Semarang No. 5 Malang, Jawa Timur, Indonesia

*Corresponding author, Email: herul.wahyudin.2301119@students.um.ac.id

Abstract

This paper explores the significance of gauging academic resilience in students, which is crucial for their academic success and overall well-being. Academic resilience is defined as a student's capacity to overcome educational challenges and hurdles. The paper underscores the necessity of assessing academic resilience to pinpoint students who may require intervention and assistance. It also delves into the four facets of academic resilience: confidence, control, composure, and persistence. The research, conducted in Indonesia with 599 middle school students, utilized a self-constructed scale to measure academic resilience. The findings revealed a moderately average level of academic resilience among the students. The paper stresses the need to boost students' confidence, control, composure, and persistence to augment their academic resilience. The research also scrutinized the academic resilience of students based on demographic factors such as gender, grade level, and province. The findings indicated significant resilience differences based on gender and province. The study further investigated the resilience variation based on specific items of the academic resilience scale. Several items exhibited differential functioning based on demographic factors.

Keywords: academic resilience; students; gender

1. Introduction

Education has a very important role in the development of individuals and society. One aspect that is the main focus in education is students' academic achievement. However, students are faced with various challenges during their educational journey. One concept that is increasingly gaining attention is student academic resilience, which is the ability of students to overcome challenges and obstacles that arise in the educational context (Reivich & Shatté, 2002).

Academic resilience refers to students' ability to continue to achieve academically even though they face pressure, stress, or difficulties in the school environment (Yang & Wang, 2021). In the context of junior high school students, students are in a crucial period of development or in the storm and stress phase, where they have to face various physical, social, and emotional changes (Hidayati & Farid, 2016). In addition, academic demands are also increasingly complex, and expectations for academic achievement are increasing. Therefore, it is important for students to have resilience.

Laura et al., (2022) explained that individuals with high resilience tend to show better academic achievement than those with low resilience. Low academic resilience affects various aspects of students' lives including academic achievement, mental health, learning motivation, and character development (Martin & Marsh, 2003). Meanwhile, Birkholm (2019) explains that low academic resilience will make learners find it difficult to adapt to changes or challenges in the learning environment and may also find it difficult to bounce back from

academic failures or difficulties. Furthermore, Ahmadi et al., (2013) explained that there is a positive correlation between the level of academic resilience and students' academic achievement. Lack of academic resilience in students not only results in decreased academic performance, but also negatively affects their psychological well-being. In addition, Hu et al., (2015) also stated that resilience has a negative relationship with mental health problems, such as depression. These poor mental health conditions can potentially lead to impulsive actions, including suicide. This emphasizes the importance of having a high level of academic resilience for students in order to achieve success in academics.

Based on the explanation above, it is important to measure students' academic resilience. The measurement results can be used to further intervene on students' academic resilience. Therefore, this study aims to assess the level of academic resilience of junior high school students in Indonesia.

Several studies related to academic resilience in schools look for the causes of academic resilience symptoms. The condition of academic resilience has a focus on pressure, one of which is on confidence caused by the experience of students' success so that it increases their confidence (Martin & Marsh, 2003). Adaptive training strategies that target metacognitive skills can be effective in increasing confidence (Said, Frauhammer, & Huff, 2023). Interventions that target self-confidence directly can also be beneficial. Designing interventions to improve individuals' self-confidence can be achieved by addressing self perceptions and providing experiences of success (Huertas & Hanna, 2020). Self-confidence will be one of the determinants of academic resilience because when a person has a good level of self-confidence, he will give a positive reaction to himself which will lead to a sense of satisfaction and affect the development of his mental state (Hurlock, 1999). Overall, improving self-confidence involves addressing self-esteem, identifying and addressing possibilities, providing training and education, targeting self confidence directly, and incorporating practice and coping strategies. By implementing these strategies, individuals can develop a stronger sense of self-worth and belief in their abilities, thereby increasing self-confidence.

Increasing control in learners is important in the education process to help them develop skills, discipline and responsibility. McInerney (2000) explains that building learners' control is about showing them the hard work and effectiveness of learning strategies that have an impact on academic achievement, demonstrating study skills during class and giving learners choices regarding learning objectives, assignments, assessments and deadlines.

Furthermore, Jennings & Greenberg (2009) explain that creating a conducive classroom atmosphere with teachers who display social and emotional competence will improve learners' performance and perseverance. In conclusion, improving learner control can be done by providing examples to learners regarding hard work and the impact of effort that displays academic achievement.

Improving learners' composure is key to creating a productive learning environment and helping them manage stress and emotions better which will lead to good academic resilience. Sometimes, learners experience anxiety which ultimately becomes the basis of failure experienced by learners (Covington, 1992). Furthermore, Fabes & Eisenberg (1998) explained that the involvement of learners in activities that encourage prosocial behavior will turn learners into having skills to manage emotions and calmness. Another way that can also be used is to teach learners to practice doing questions or assignments and make learning and

evaluation plans so that learners are calmer during exams or learning in the classroom (Martin & Marsh, 2003). In general, improving calmness can be done by training learners to prepare lessons, practice and conduct evaluations so that students are more prepared and calm when facing learning and testing at school.

Improving students' persistence, or their ability to stay committed and engaged in learning and educational goals, is critical to academic success. Improving learners' persistence can be done by showing them how to do tasks, dividing schoolwork into components, planning and overcoming obstacles that occur based on their experiences (McInerney, 2000). On the other hand, Tinto (1997) explains that improving learners' persistence can be done by building classroom situations and classroom communities that are inclusive and supportive so as to increase learners' sense of belonging and involvement which ultimately increases persistence. Increasing learners' persistence can be done by showing how to work hard and work smart by prioritizing tasks that are also supported by a sportive and inclusive classroom environment.

When all aspects of academic resilience, namely confidence, control, composure, and persistence are in good and positive condition, students will have high academic resilience. Because, confidence, control, composure, and persistence are the basic foundations of academic resilience that will make students able to face challenges, setbacks, stress and problems faced in the school environment (Martin & Marsh, 2003).

2. Method

The participants in this study were junior high school students from 10 provinces in Indonesia with a total of 599 consisting of males and females. Full demographic information is presented in table 1.

Table 1 Demographic Information of Participants

	n	%
Gender		
Male	225	38
Female	374	62
Level Class		
7 th Grade	375	63
8 th Grade	99	17
9 th Grade	125	21
Province		
Banten	3	1
Bengkulu	80	13
Jakarta	86	14
West Java	296	49
Central Java	48	8
East Java	27	5
Lampung	21	4
East Nusa Tenggara	1	0
North Sulawesi	3	1
West Sumatera	34	6

2.1. Procedure

This research is a cross-sectional study that aims to assess the level of academic resilience of junior high school students in Indonesia. This research was conducted in

September-October 2023. The data collection process begins with providing information to research respondents related to the research objectives. After that, students were asked for their willingness to fill out the instrument through a google drive link. There is no coercion for respondents to participate in this study. All respondents' personal information is confidential.

2.2. Instrument

The measuring instrument used in this study is an academic resilience scale constructed by the researcher herself. The measured aspects consist of confidence, control, composure, and persistence (Martin & Marsh, 2003). This academic resilience scale amounted to 24 items using a 5-point Likert scale, with alternative answers very appropriate, appropriate, less appropriate, inappropriate, and very inappropriate.

Table 2 shows the results of dimensionality and reliability testing. The students' academic resilience scale has adequate reliability in the 599 samples tested. In estimating the validity of the academic resilience scale through principal component analysis (PCA), the measurement value reached 44.4% so that the academic resilience scale is unidimensional.

Table 2 shows the results of validity and reliability measurements with Rasch model analysis.

	Mean Logit (SD)	Separation Index	Reability	Alpha Cronbach	Unidimensionality
Person	0.00	2.36	0.85	0.89	44.4%
Item	0.45	13.45	0.99		

2.3. Data Analysis

The data in this study used the Rasch model. WINSTEPS software as a tool to analyze the data. The aspects analyzed are 1) the level of student academic resilience, 2) An overview of student academic resilience based on demographic aspects.

3. Results and Discussion

3.1. Result

3.1.1. Overview of Academic Resilience of Junior High School Students

The results of data analysis show that the logit mean of students' academic resilience is 0.45, meaning that the level of students' academic resilience is in the moderate category. Of the 24 items tested in this study, it can be seen that item no 4 "I feel worried about getting low grades when submitting assignments" is the most difficult item for all students to agree with. While item 24 "I choose not to attend school if the assignment has not been completed" was the easiest item to agree with. A complete summary of students' academic resilience levels is shown in table 3.

Table 3 Distribution of Student Academic Resilience Measurements Based on Academic Resilience Scale Items

No	Items	Score	Measure	S.E	Outfit MNSQ
1	I worry about getting low marks when submitting assignments	1234	1.57	0.05	1.26
2	I find it difficult to find solutions when I lose my enthusiasm for learning	1437	1.19	0.04	0.96

No	Items	Score	Measure	S.E	Outfit MNSQ
3	I panic when asked to do an assignment in front of the class	1528	1.02	0.04	1.15
4	Anxiety when learning makes me lose my enthusiasm in learning	1625	0.85	0.04	1.04
5	When I don't achieve my target grade, it makes me lose my enthusiasm to study	1772	0.60	0.04	1.01
6	Choosing to ignore problems that are difficult for me to solve	1877	0.41	0.04	0.95
7	I feel that I will achieve low achievement in learning	1924	0.32	0.04	1.02
8	I choose to give up if my efforts in studying are not successful	1949	0.28	0.04	0.98
9	I try not to get anxious when I haven't done my assignments	1985	0.21	0.04	1.55
10	I am late in submitting school assignments	2049	0.09	0.04	0.72
11	I put off doing assignments given by the teacher	2129	-0.07	0.05	0.82
12	When I feel lazy to study I remember the learning targets that have been made	2171	-0.16	0.05	1.10
13	When given a difficult task I feel challenged	2129	-0.20	0.05	1.26
14	I am sure the answers to the exam I did are correct	2206	-0.23	0.05	0.83
15	I feel anxious when I haven't finished my assignments	2254	-0.34	0.05	1.40
16	I feel normal when I ignore school assignments	2272	-0.38	0.05	0.92
17	When I encounter difficulties in learning, I ask my friends to discuss it	2276	-0.39	0.05	1.32
18	I organize time to do assignments so that tasks do not accumulate	2350	-0.57	0.05	0.99
19	I complete assignments without cheating	2366	-0.61	0.05	1.03
10	I submit my assignments on time	2373	-0.62	0.05	0.70
21	Although I have a lot of schoolwork, I still complete it on time.	2395	-0.68	0.05	0.83
22	I still complete school assignments even though I face difficulties	2398	-0.69	0.05	0.94
23	Although the assignments given by the teacher are difficult, I remain calm and try to understand them	2410	-0.72	0.05	0.69
24	I choose not to attend school if the assignment has not been completed	2472	-0.89	0.05	1.42

3.1.2. Overview of Student Academic Resilience Based on Demographic Aspects

The study also tested whether there are significant differences in students' academic resilience based on certain demographic aspects. There are 3 demographic aspects tested in this study, such as (1) gender, (2) grade level and (3) province. The analysis results show that there are 2 aspects that show significant differences in each group, such as: (1) gender ($0.0087 < 0.05$) and (2) province ($0.0593 < 0.05$).

Table 4 Distribution of Student Academic Resilience Based on Demographic Aspects

No.	Aspect	Mean Measure	Reability	F-Test	Prob>F
1	Gender	0.45	0.88	6.91	0.0087
	Male	0.36	0.88		
	Female	0.51	0.88		
2	Grade Level	0.45	0.88	1.65	0.1901
	7 th Grade	0.48	0.86		

No.	Aspect	Mean Measure	Reability	F-Test	Prob>F
	8 th Grade	0.48	0.89		
	9 th Grade	0.36	0.92		
3	Province	0.45	0.88	1.83	0.0593
	Banten	0.43	0.00		
	Bengkulu	0.65	0.88		
	Jakarta	0.52	0.85		
	West Java	0.36	0.89		
	Central Java	0.41	0.88		
	East Java	0.51	0.78		
	Lampung	0.70	0.79		
	East Nusa Tenggara	0.17	0.00		
	South Sulawesi	0.73	0.80		
	West Sumatera	0.47	0.87		

Note:*) Prob>F is significant at 0.05.

3.1.3. Students' Academic Resilience in terms of Demographic Aspects and Responses to Academic Resilience Scale Items

The differences in academic resilience in terms of demographic aspects are interesting findings in this study. To enrich the results, variations in academic resilience were also tested at the item level of the academic resilience scale based on the same 3 demographic aspects previously. The differential item functioning (DIF) test was used to determine which items were biased in each demographic group tested in this study.

Table 5 shows that overall the items shown by DIF (Prob<0.05) show differences in student responses based on demographic aspects. For example: "I feel worried about getting low grades when submitting assignments" occurs in both females and males.

Table 5 Comparison of Student Academic Resilience Based on Demographic Aspects tested based on Academic Resilience Scale items

No	Demographic Aspect	Differential Item Functioning (DIF)**)	
		DIF Items	DIF Prob
1	Gender Male Female	Item 4 "I feel worried about getting low grades when submitting assignments"	0.0000
		Item 7 "I choose to surrender if my efforts are not successful. learning doesn't work"	0.0006
		Item 9 "I submit my assignments on time"	0.0003
		Item 13 "When encountering difficulties in learning I invite friends to discuss"	0.0010
		Item 14 ""I find it difficult to find a solution"	0.0122
		Item 16 "Even though the task given by the teacher is difficult, I remain calm and try to understand it"	0.0086
		Item 17 "I panic when asked to do assignment in front of the class"	0.0025
		Item 18 "Anxiety while studying makes me lose enthusiasm in learning"	0.0001
		Item 19 "I feel anxious when I am not finished do the assignment"	0.007
		Item 20 "I feel normal just when neglecting schoolwork"	0.0151

No	Demographic Aspect	Differential Item Functioning (DIF)**)		
		DIF Items	DIF Prob	
		Item 22 "When the target value is not achieved made me lose my enthusiasm for study"	0.0003	
		Item 23 "I keep completing my school assignments despite the difficulties"	0.0023	
		Item 24 "I choose not to attend school if the task has not been completed"	0.0039	
2	Grade Level	Item 1 "I complete assignments without cheating"	0.0138	
		Item 8 "I feel that I will achieve low achievement in learning"	0.0211	
		7 th Grade	Item 11 "I delay doing the assignments given by the teacher"	0.0012
		8 th Grade	Item 12 "I organize time to do the assignments so that the assignments do not pile up"	0.0468
		9 th Grade	Item 13 "When I encounter difficulties in learning, I invite friends to discuss"	0.0000
		Item 17 "I panic when asked to do an assignment in front of the class"	0.0042	
		Item 24 "I choose not to come to school if the assignment has not been completed"	0.0080	
3	Province	Item 2 "I believe the answers to the exams I do are correct"	0.0388	
		Banten	Item 8 "I choose to ignore problems that are difficult for me to solve"	0.0441
		Bengkulu	Item 12 "I organize time to do assignments so that tasks do not accumulate"	0.227
		Jakarta		
		West Java		
		Central Java		
		East Java		
		Lampung		
		East Nusa Tenggara		
		South Sulawesi		
West Sumatera				

3.1.4. Overview of Student Academic Resilience Aspect Based on Gender, Class, and Province

The results of the analysis showed a percentage distribution of aspects of academic resilience by gender, class, and province. In general, the level of confidence in each group had relatively similar values, with men and grade 9 showing little superiority. Control, situation-handling skills, and persistence also show the uniformity between the groups. However, there are small variations in certain aspects. For example, the East Nusa Tenggara province stands out with a higher level of confidence, while the Bengkulu province has a slightly lower level of persistence. This analysis provides valuable insights into the differences and similarities in academic resilience between particular groups, which can be the basis for further discussion and the development of more focused educational strategies.

Table 6 Distribution of Student Academic Resilience Aspect Based on Gender, Grade Level, and Province

Aspects of Academic Resilience Based on gender					
No	Aspect	Male	(%)	Female	(%)
1	Confidence		33		32

Aspects of Academic Resilience Based on gender						
2	Control		25		26	
3	Composure		24		24	
4	Persistence		18		18	
Aspects of Academic Resilience Based on Class						
No	Aspect		(%)	(%)	(%)	
1	Confidence		32	33	33	
2	Control	7th Grade	26	8th Grade	25	
				9th Grade	25	
3	Composure		24	24	24	
4	Persistence		18	18	18	
Aspects of Academic Resilience Based on Province						
No	Provinsi	Aspect	Confidence (%)	Control (%)	Composure (%)	Persistence (%)
1	Banten	Confidence (%)	33	24	23	20
2	Bengkulu		33	26	24	17
3	Jakarta		32	26	24	18
4	West Java		33	25	24	18
5	Central Java		33	24	25	18
6	East Java		32	26	25	18
7	Lampung		32	25	25	18
8	East Nusa Tenggara		34	26	23	17
9	North Sulawesi		33	24	25	18
10	West Sumatera		33	25	24	18

3.2. Discussion

This research aims to find out how the condition of students' academic resilience, especially in Jakarta, West Java, Central Java, East Java, Banten, South Sulawesi, East Nusa Tenggara, West Sumatera, Lampung and Bengkulu. This research shows the importance of measuring students' academic resilience to support academic success and student well-being. Furthermore, the four aspects of academic resilience identified in this study are confidence, control, composure, and persistence. In this context, confidence refers to students' belief in their ability to succeed in academic tasks. Control refers to students' ability to control and regulate their own behavior to achieve academic goals. Composure refers to students' ability to remain calm and focused in the face of academic pressure or challenges. Persistence refers to students' ability to keep trying and not give up despite facing difficulties. Based on these four aspects, there is the lowest aspect, namely control, which means that students have not been able to control and regulate their behavior to achieve academic goals which are influenced by individual, family and environmental factors (Mir'atannisa, Rusmana, & Budiman, 2019).

The results of this study show that the average level of academic resilience of junior secondary school students in Indonesia is at a moderate level. This indicates that students have the ability to overcome challenges and obstacles in their education, but there is still room for improvement. Based on this, students' academic resilience is spread across low, moderate and high categories but in general students' academic resilience is in the moderate category because it is influenced by three factors psychological resources, social support, and cognitive skills (Holaday & McPhearson, 1997).

This study also found significant differences in academic resilience based on gender and province. This is in line with Somchit & Sriyaporn (2004) research which explains that there are differences in academic resilience between men and women. Rizkiana (2020) also

explained that there were differences in academic resilience between male and female gender. This shows that demographic factors can affect students' academic resilience. This is reinforced by the results of Maesaroh et al., (2019) research which revealed the fact that the academic resilience of men and women is influenced by biological, demographic and emotional factors. However, this study did not find significant differences in academic resilience based on grade level. In addition, some items in the academic resilience scale also show differential item functioning based on demographic factors.

Overall, the results of this study indicate the importance of measuring and improving students' academic resilience to support their success in education. Furthermore, this study also showed that targeted interventions to improve students' confidence, control, calmness, and perseverance can contribute to improving students' academic resilience. Improving students' academic resilience is important because resilient students will be resilient in dealing with various academic pressures (Corsini, 1999). Corsini's statement is reinforced by Praghlopatti (2020) who states that academic resilience is important to have because it will keep individuals safe, good and effective in dealing with crises.

4. Conclusion

This research demonstrates the importance of measuring students' academic resilience to support academic success and student well-being. Academic resilience, which includes self-confidence, control, calmness, and perseverance, is an important factor in helping students overcome challenges and obstacles in the educational context. The results showed that (1) students' academic resilience was in the moderate category, (2) there were significant differences in students' academic resilience in terms of gender and province, while based on grade level there were no differences.

References

- Ahmadi, A., Zainalipour, H., & Rahmani, M. (2013). Studying the role of academic hardiness in academic achievement of students of Islamic Azad University, Bandar Abbas Branch. *Journal of Life Science and Biomedicine*, 3(6), 418-423.
- Birkholm, M. (2019). *Building your resilience course guidebook: finding meaning in adversity*. 1-224.
- Corsini, R. J. (1999). *The dictionary of psychology*. Psychology Press.
- Covington, M. V. (1992). *Making the grade: A self-worth perspective on motivation and school reform*. Cambridge University Press.
- Fabes, R. A., & Eisenberg, N. (1998). Meta-analyses of age and sex differences in children's and adolescents' prosocial behavior. *Handbook of Child Psychology*, 3, 1-29.
- Hidayati, K. B., & Farid, M. (2016). Konsep diri, adversity quotient dan penyesuaian diri pada remaja. *Persona: Jurnal Psikologi Indonesia*, 5(02).
- Holaday, M., & McPhearson, R. W. (1997). Resilience and severe burns. *Journal of Counseling & Development*, 75(5), 346-356.
- Hu, T., Zhang, D., & Wang, J. (2015). A meta-analysis of the trait resilience and mental health. *Personality and Individual Differences*, 76, 18-27.
- Huertas, M. K. Z., & Hanna, E. K. (2020). How self-confidence moderates the effect of two-sided messages on purchase intention. *Journal of Creative Communications*, 15(3), 235-254.
- Hurlock, B. E. (1999). Psikologi Perkembangan: Suatu Pendekatan Sepanjang. *Rentang Kehidupan*. Ed, 5.
- Jennings, P. A., & Greenberg, M. T. (2009). The prosocial classroom: Teacher social and emotional competence in relation to student and classroom outcomes. *Review of Educational Research*, 79(1), 491-525.
- Laura, A., Nugroho, A. D., Wulandari, A. A., Wibisono, A. B., & Budiman, D. T. (2022). Pengaruh Cooperative Learning Terhadap Resiliensi Akademik Remaja. *Psychopreneur Journal*, 6(1), 1-9.

- Maesaroh, S., Sunarti, E., & Muflikhati, I. (2019). Ancaman, Faktor Protektif, dan Resiliensi Remaja di Kota Bogor. *Jurnal Ilmu Keluarga Dan Konsumen*, 12(1), 63–74. <https://doi.org/10.24156/jikk.2019.12.1.63>
- Martin, A. J., & Marsh, H. W. (2003). *Academic resilience and the four Cs: Confidence, control, composure, and commitment*.
- McInerney, D. M. (2000). Helping kids achieve their best: Understanding and using motivation in the classroom. St. Leonards. *New South Wales, Australia: Allen & Irwin*.
- Mir'atannisa, I. M., Rusmana, N., & Budiman, N. (2019). Kemampuan Adaptasi Positif Melalui Resiliensi. *Journal of Innovative Counseling: Theory, Practice, and Research*, 3(02), 70–75.
- Pragholapati, A. (2020). *Resiliensi Pada Kondisi Wabah Covid-19*. 1–9. <https://doi.org/10.35542/osf.io/3r8jk>
- Reivich, K., & Shatté, A. (2002). *The resilience factor: 7 essential skills for overcoming life's inevitable obstacles*. Broadway books.
- Rizkiana, D. (2020). *Resiliensi Akademik Mahasiswa Jurusan Bimbingan Konseling Islam (Bki) Iain Tulungagung Yang Sedang Menempuh Skripsi Di Tengah Wabah Covid-19 Ditinjau Dari Jenis Kelamin*. Retrieved from <http://repo.iain-tulungagung.ac.id/17866/>
- Said, N., Frauhammer, L. T., & Huff, M. (2023). *Consensus Messaging in Climate Change Communication: Metacognition as Moderator Variable in the Gateway Belief Model*.
- Somchit, S., & Sriyaporn, P. (2004). The relationships among resilience factors, perception of adversities, negative behavior, and academic achievement of 4th- to 6th-grade children in Thad-Thong, Chonburi, Thailand. *Journal of Pediatric Nursing*, 19(4), 294–303. <https://doi.org/10.1016/j.pedn.2004.02.004>
- Tinto, V. (1997). Classrooms as communities: Exploring the educational character of student persistence. *The Journal of Higher Education*, 68(6), 599–623.
- Yang, S., & Wang, W. (2021). The Role of Academic Resilience, Motivational Intensity and Their Relationship in EFL Learners' Academic Achievement. *Frontiers in Psychology*, Vol. 12, p. 823537. <https://doi.org/10.3389/fpsyg.2021.823537>