



The role of self-control in enhancing academic resilience and sports performance in Indonesian vocational students

El papel del autocontrol en el mejora de la resiliencia académica y el rendimiento deportivo en estudiantes vocacionales indonesia

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Resumen

Introducción: En la educación vocacional en Indonesia, la resiliencia académica es clave para mejorar el compromiso con el aprendizaje y reducir el riesgo de abandono escolar. Aunque los factores psicológicos y demográficos se han estudiado ampliamente, los estudios en entornos vocacionales en países en desarrollo son limitados. La resiliencia deportiva, que implica superar desafíos físicos y mentales, comparte rasgos psicológicos con la resiliencia académica, como el autocontrol, la regulación emocional y la gestión del estrés.

Objetivo: Este estudio tuvo como objetivo validar y perfilar la resiliencia académica en estudiantes de escuelas secundarias vocacionales, explorar influencias demográficas y proponer estrategias de asesoramiento centradas en el autocontrol. También se investigó la relación entre resiliencia académica y deportiva en estudiantes vocacionales de Indonesia.

Metodología: Se realizó una encuesta transversal con 433 estudiantes de 15 a 19 años utilizando una escala de resiliencia académica de 24 ítems. Se aplicó el análisis del modelo Rasch para evaluar la fiabilidad y el funcionamiento diferencial de los ítems (DIF). La escala mostró propiedades psicométricas sólidas (α de Cronbach = 0.86; fiabilidad de personas = 0.83; fiabilidad de ítems = 0.99).

Resultados: Los niveles de resiliencia académica fueron moderados (logit medio = 0.52). Se observaron diferencias significativas por provincia, pero no por género ni grado. El análisis DIF reveló sesgos en áreas relacionadas con la ansiedad y el rendimiento.

Discusión: Los resultados destacan el papel de los recursos sociales en la resiliencia y sugieren que las estrategias de autocontrol pueden mejorar tanto la resiliencia académica como la deportiva.

Conclusión: Este estudio integra el modelado Rasch con marcos de asesoramiento, destacando la importancia del autocontrol para el éxito académico y la resiliencia deportiva.

Palabras clave

Resiliencia académica; autocontrol; resiliencia deportiva; estudiantes vocacionales; intervenciones de asesoramiento.

Abstract

Introduction: In vocational education in Indonesia, academic resilience is crucial for enhancing learning engagement and reducing dropout risks. While psychological and demographic factors have been widely studied, research in vocational settings in developing countries remains limited. Sports resilience, which involves overcoming physical and mental challenges, shares psychological traits with academic resilience, including self-control, emotional regulation, and stress management.

Objective: This study aimed to validate and profile academic resilience among vocational high school students, explore demographic influences, and propose self-control-focused counseling strategies. It also aimed to examine the relationship between academic and sports resilience in Indonesian vocational students.

Methodology: A cross-sectional survey was conducted with 433 students aged 15–19 using a 24-item Academic Resilience Scale. Rasch model analysis was applied to assess reliability, unidimensionality, and differential item functioning (DIF). The scale showed strong psychometric properties (Cronbach's α = 0.86; person reliability = 0.83; item reliability = 0.99).

Results: Academic resilience levels were moderate (mean logit = 0.52). Significant differences were observed based on province, while no meaningful differences were found for gender or grade. DIF analysis revealed biases in anxiety- and performance-related domains across demographic groups.

Discussion: The findings emphasize the role of social resources in resilience and suggest that self-control strategies can enhance both academic and sports resilience by addressing performance anxiety and emotional regulation.

Conclusion: This study is one of the first to integrate Rasch modeling with counseling frameworks in vocational education, highlighting the importance of self-control strategies in supporting long-term academic success and athletic resilience.

Keywords

Academic resilience; self-control; sports resilience; vocational students; counseling interventions.



Introduction

In the rapidly evolving landscape of education and society, resilience is increasingly recognized as a crucial competence for individuals to thrive both personally and professionally. In the realm of sports, mental resilience is essential for athletes to overcome physical, emotional, and psychological challenges throughout their careers. Academic resilience and sports resilience may seem distinct, they share foundational similarities in terms of stress management, emotion regulation, and self-control, which are all critical for long-term success (Martin & Marsh, 2003).

Self-control, a central element of academic resilience, plays a vital role in sports psychology. Similarly, in sports, athletes need to manage performance anxiety, maintain discipline during intense training, and stay focused despite setbacks like losses or injuries. Both students and athletes require the ability to stay composed, manage time effectively, and remain focused under substantial pressure. Adolescence, a pivotal stage that coincides with vocational education, is also a period during which athletes develop their identities, skills, and emotional resilience. Without adequate resilience, they are more vulnerable to excessive stress, diminished self-confidence, and the potential for early dropout from sports careers (Kuchar et al., 2023; M. Zhang et al., 2025; Y. Zhang et al., 2024). In this sense, building mental resilience is not only crucial for students in educational contexts but also for athletes, especially those in the developmental phase (Ciurana & Garcia, 2025; Elam-Snowden, 2025; Nicita et al., 2025).

However, athletes often encounter limitations in terms of access to resources, greater performance pressure, and heightened concerns about emotional well-being. Therefore, strengthening resilience through self-control-based psychological interventions is essential to help athletes manage these challenges and enhance their performance in the long term (Badarnah, 2025; Christolouka & Verdis, 2025; Wahyudin et al., 2025; Yun et al., 2023). Despite the growing international recognition of resilience, research on athletic resilience in Indonesia remains limited. Prior studies have not sufficiently addressed demographic disparities or employed advanced psychometric validation in measuring athletic resilience (Kegelaers, 2023; Volgemute et al., 2025; Wahyudin et al., 2023).

Given these insights, the present study aims to: (1) validate the measurement of athletic resilience using the Rasch model; (2) examine the demographic influences, including gender, training environment, and region; and (3) propose self-control-based psychological strategies to enhance adaptability and persistence in athletes.

Method

This study employed a quantitative, correlational design to explore the relationship between demographic factors (gender, grade level, province) and academic resilience, while also examining how these factors might influence athletic resilience. Both academic and sports resilience share core psychological traits such as self-control, emotion regulation, and stress management, which are essential for success in both academic and athletic contexts (Gamage et al., 2022; A. J. Martin & Marsh, 2009). These traits help individuals, whether students or athletes, manage stress, regulate emotions, and persist through challenges. The study's focus on these dimensions enhances our understanding of how these psychological skills play a crucial role in both the classroom and the sports domain.

The Rasch model was selected for its robust ability to measure individual resilience levels accurately and assess how each item functions across different demographic groups (Bond & Fox, 2013; Thakur, 2025). This method is especially valuable in sports psychology, where understanding how athletes from diverse backgrounds respond to challenges is crucial for developing tailored interventions. The Winsteps software was used to analyze the data, applying Rasch modeling to assess person and item reliability, separation indices, and item fit statistics (Linacre, 2006; Thakur, 2025). Differential Item Functioning (DIF) analysis was also conducted to ensure fairness in measuring resilience across gender, age, and region, which is essential for ensuring that the scale is applicable to diverse groups of athletes and students (Buchwald, 2016).



Data were collected through surveys administered both online and in-person. The survey consisted of 24 items designed to assess academic resilience, capturing factors such as emotional regulation, persistence, and academic performance under stress—all of which are equally important for athletes dealing with performance pressure and competition anxiety (L. Zhang, 2023). The data analysis using the Rasch model ensured that misfitting items were identified and flagged for revision, thus improving the reliability of the Academic Resilience Scale and making it applicable for both educational and athletic contexts (Arikunto et al., 2023).

The findings highlight the importance of developing psychological skills such as self-control, emotion regulation, and stress management to enhance resilience. The study suggests that interventions aimed at improving these skills can benefit both academic success and athletic performance. School-based programs such as Solution-Focused Brief Counseling, mindfulness practices, and cognitive-behavioral interventions (Erdemir et al., 2024; Ndze et al., 2023) have shown effectiveness in improving resilience, which could similarly benefit athletes by improving their mental well-being and performance (Gamage et al., 2022).

Participants

The study involved 433 vocational high school students from six provinces in Indonesia. Participants were selected using a stratified random sampling method to ensure proportional representation across gender, grade levels, and provinces. This diversity enables a comprehensive exploration of how demographic factors, such as gender and geographic location, influence academic resilience and, by extension, athletic resilience.

The participants were between 15 and 19 years old ($M = 17.6$, $SD = 1.1$), which corresponds to a developmental stage where both academic resilience and sports resilience are critical. Adolescents at this stage face significant emotional, cognitive, and physical changes that directly impact their ability to manage stress, perform under pressure, and maintain focus—whether in the classroom or in the sporting arena. By examining a population in this age range, the study captures insights into the development of resilience at a pivotal time in both academic and athletic careers.

The sample was nearly evenly split by gender, with 218 males (50.4%) and 215 females (49.6%), which allows for a meaningful analysis of gender differences in resilience. In the context of sports psychology, understanding how gender may influence stress management and emotional regulation is essential for developing gender-sensitive interventions for athletes. The participants were drawn from three grade levels: 10th grade ($n = 224$, 51.7%), 11th grade ($n = 117$, 27%), and 12th grade ($n = 92$, 21.3%).

Regarding geographic distribution, the largest proportion of students came from West Java ($n = 276$, 63.7%), followed by Banten ($n = 45$, 10.4%), Lampung ($n = 42$, 9.7%), Jakarta ($n = 32$, 7.4%), Central Java ($n = 30$, 6.9%), and Yogyakarta ($n = 8$, 1.8%). This representation from diverse provinces is especially relevant when exploring the impact of regional disparities in access to resources, which can influence how resilience develops in athletes from different regions. In sports psychology, regional differences often correlate with resource availability, which in turn affects an athlete's capacity to manage pressure and perform under stress.

The inclusion criteria were as follows: students must be enrolled in vocational high school programs, aged 15-19 years, and able to complete the survey in Indonesian. Students with special needs or those unable to independently complete the survey were excluded from the study, ensuring a representative sample of students with the capacity to provide meaningful data on their resilience levels.

Table 1. Demographic Characteristics of Participants (N = 433)

Variable	Category	n	%
Gender	Male	218	50.3
	Female	215	49.7
Grade Level	10th Grade	224	51.7
	11th Grade	117	27.0
	12th Grade	92	21.3
Province	West Java	276	63.7
	Banten	45	10.4
	Lampung	42	9.7
	Jakarta	32	7.4
	Central Java	30	6.9



	Yogyakarta	8	1.8
Age (years)	Range: 15-19		
	Mean (SD)	17.6 (1.1)	-

Note. N = 433. Percentages may not total 100 due to rounding

Procedure

This study adopted a cross-sectional survey design to examine the levels of academic resilience among vocational high school students while also exploring how these resilience factors might relate to athletic resilience. Although academic and athletic resilience are often viewed separately, they share critical components such as self-control, emotion regulation, and stress management, which are crucial for success in both the classroom and sports. The data were collected between September and October 2024 using an online questionnaire developed in Google Forms, which was distributed to participants via WhatsApp. This method allowed for the efficient collection of data from a geographically diverse sample, representing various regions of Indonesia. This diversity is particularly significant for examining the regional disparities in resilience that may mirror challenges faced by athletes across different locations.

Prior to participation, all students were fully informed about the study's purpose and procedures, ensuring informed consent. The survey took approximately 15 minutes to complete, and participation was entirely voluntary, with no incentives or coercion involved. All responses were treated with strict confidentiality, adhering to ethical research standards.

This approach not only provides insights into academic resilience, but it also offers valuable implications for sports psychology, where the psychological traits assessed—emotion regulation, self-control, and stress management—are foundational for athletic performance. The study aims to bridge the gap between academic and athletic resilience by analyzing how these psychological factors influence athletes in terms of their ability to manage stress, overcome obstacles, and maintain focus on long-term goals.

Instrument

The instrument employed in this study was a researcher-developed Academic Resilience Scale, grounded in the theoretical framework of confidence, control, composure, and commitment (Martin & Marsh, 2003). These core components of academic resilience are equally applicable to sports resilience, particularly in how athletes cope with performance pressure and emotional regulation in competitive environments. The items in the scale were carefully constructed to reflect these core components, with each item representing key psychological traits that influence resilience, such as the ability to remain focused under stress, manage emotions effectively, and maintain long-term goals despite setbacks. These traits are essential in both academic and sports settings, where the individual's response to stress can significantly impact their overall performance and success (de Anda Martín et al., 2024; Tossici et al., 2024).

The scale consisted of 24 items, each rated on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The selection of the items was informed by a thorough review of existing resilience frameworks, including both academic and sports contexts, ensuring that the items measure the psychological traits that support both academic success and athletic performance. These psychological traits are commonly used in resilience scales to evaluate how individuals persevere and stay focused despite adversity (Biggs et al., 2024). To ensure the scale's content validity, the items were reviewed by experts in educational psychology before administration, ensuring that the instrument accurately reflects the psychological traits that support both academic and athletic resilience.

The psychometric properties of the scale were evaluated using the Rasch model (see Table 2). The Rasch model was chosen for its precision in evaluating item fit and overall unidimensionality, ensuring that each item functioned consistently across different demographic groups. In sports psychology, such accuracy is critical for understanding how resilience manifests in diverse groups of athletes, particularly in terms of how they respond to competition and stress. The Rasch model is preferred in psychological research because of its ability to assess the unidimensionality of the scale, allowing for clearer insights into how well the items work across diverse populations and contexts (Abdellatif, 2023; Thakur, 2025). The Differential Item Functioning (DIF) analysis was conducted to detect potential biases in how different demographic groups, such as gender or province, responded to the items. Identifying any biases

ensures that the scale remains fair and valid across different contexts, which is especially important in sports psychology when assessing resilience in athletes from varied backgrounds.

The results indicated strong measurement precision, with person reliability of 0.83 and item reliability of 0.99, along with separation indices of 2.19 (persons) and 12.17 (items). These values indicate that the scale performs consistently across diverse groups. Additionally, internal consistency was satisfactory, with a Cronbach's alpha of 0.86, confirming that the scale is reliable. The unexplained variance in the first contrast was 43.1%, suggesting that while the scale is robust, further refinement could enhance its unidimensionality, especially for complex constructs like resilience, which involves multiple facets of psychological functioning (Troy et al., 2023). These results align with best practices in sports psychology, where precision in measuring resilience is essential for tailoring effective psychological interventions for athletes.

The scale was specifically designed to assess both cognitive and emotional aspects of resilience, which are critical for maintaining performance in academic settings and in sports. The emotional aspects of resilience are crucial for athletes who need to manage anxiety, frustration, and stress under pressure, while cognitive resilience helps maintain focus and persistence toward long-term goals. The scale was piloted with a small group of students to assess its clarity, and its reliability was confirmed through high Cronbach's alpha scores, demonstrating its robustness for measuring resilience in both academic and athletic contexts.

Table 2. Summary of Rasch Model Analysis for Academic Resilience Scale

Parameter	Mean Logit (SD)	Separation Index	Reliability	Alpha Cronbach	Unidimensionality (Variance Explained)
Person	0.52	2.19	0.83	0.86	43.1%
Item	0.00	12.17	0.99		

Data analysis

The data analysis aimed to evaluate the measurement properties of the Academic Resilience Scale, specifically focusing on its reliability, validity, and dimensionality using Rasch analysis. This method allowed for a precise evaluation of how the scale performs across different demographic subgroups, ensuring that the measurement is both accurate and fair. While the focus was on academic resilience, the psychological traits measured—such as self-control, emotion regulation, and stress management—are also crucial for athletic resilience, where similar psychological factors help athletes cope with the pressures of competition, manage stress, and recover from setbacks.

Psychometric evaluation was conducted using the Rasch model with Winsteps version 5.1.7.0, following the guidelines outlined in the comprehensive manual (Linacre, 2022; Thakur, 2025). Rasch analysis was applied to assess person and item reliability, separation indices, internal consistency (Cronbach's α), unidimensionality, and item fit statistics (Infit/Outfit MNSQ). This approach provides several advantages over classical test theory by ensuring invariant measurement, detecting misfitting items, and evaluating Differential Item Functioning (DIF) across demographic subgroups. These steps are crucial in sports psychology as they ensure that the resilience measure is unbiased and accurately captures resilience across diverse populations, which is important for creating effective psychological interventions for athletes (Gamage et al., 2022).

DIF analysis was performed to examine whether the items functioned equivalently across different demographic groups, such as gender, age, and region (Folastri et al., 2023; Thakur, 2025). This step is essential in ensuring that the scale provides an equitable measure of resilience across all subgroups, without bias. For instance, in the context of sports psychology, DIF can reveal whether certain items related to performance anxiety or emotion regulation function differently for male and female athletes or for athletes from different geographic areas. Such insights are vital for tailoring interventions that address the unique challenges faced by athletes from diverse backgrounds.

Misfitting items were identified through the Infit/Outfit MNSQ statistics, which indicate whether the items perform appropriately across the entire sample. Items that showed significant misfit were flagged for revision or removal, ensuring that only items that effectively capture resilience were retained. In



sports psychology, identifying misfit items is crucial because biased items can skew the understanding of resilience, which may lead to ineffective or inadequate interventions for athletes.

Recent studies have highlighted the utility of Rasch analysis in validating educational and psychological instruments (Arikunto et al., 2023; Folastrri et al., 2023; Rangka et al., 2023). The application of Rasch modeling in this study not only ensures the robustness of the Academic Resilience Scale in academic contexts but also enhances its relevance in sports psychology, providing a valid and reliable tool to measure resilience across both fields.

Results

Overview of Academic Resilience of Vocational School Students

The results of the data analysis revealed that the mean logit of students' academic resilience was 0.52, categorizing the overall level of academic resilience as moderate. This suggests that while students demonstrate some degree of resilience, there is significant room for improvement. For instance, among the 24 items tested, Item 4 ("I worry about getting low marks when submitting assignments") was the most difficult for students to agree with, indicating that performance anxiety related to academic achievement is a challenge. On the other hand, Item 24 ("I choose not to attend school if the assignment has not been completed") was the easiest item for students to agree with, showing a tendency to disengage when academic tasks are not completed, which could be a sign of academic avoidance.

These findings highlight key areas where students face challenges: performance anxiety and academic avoidance. The results also suggest that while students can manage some aspects of their academic resilience, there is a need for targeted interventions to address these issues.

This finding has important implications for sports psychology, as similar performance anxiety and avoidance behavior are common in athletes who face intense competition and pressure. Just as students struggle with performance anxiety in academics, athletes often experience similar challenges during high-pressure events. The ability to manage these emotions and persevere under pressure is critical in both domains, making the development of resilience strategies applicable across both fields.

Table 3 summarizes the distribution of academic resilience levels, highlighting the variability in students' ability to manage stress, regulate emotions, and persist through academic challenges. It is clear that some students struggle more with anxiety and disengagement, which could negatively impact their overall academic performance.

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

No	No Items	Items	Score	Measure	S.E	Outfit MNSQ
1	4	I worry about getting low marks when submitting assignments	908	1.63	0.05	1.23
2	14	I find it difficult to find solutions when I lose my enthusiasm for learning	1007	1.35	0.05	0.88
3	17	I panic when asked to do an assignment in front of the class	1088	1.13	0.05	1.10
4	18	Anxiety when learning makes me lose my enthusiasm in learning	1148	0.98	0.05	1.01
5	22	When I don't achieve my target grade, it makes me lose my enthusiasm to study	1280	0.65	0.05	1.05
6	3	I feel that I will achieve low achievement in learning	1387	0.37	0.05	0.98
7	8	Choosing to ignore problems that are difficult for me to solve	1411	0.30	0.05	1.01
8	10	I am late in submitting school assignments	1420	0.28	0.05	0.71
9	7	I choose to give up if my efforts in studying are not successful	1430	0.25	0.05	0.91
10	11	I put off doing assignments given by the teacher	1437	0.23	0.05	0.72
11	15	I try not to get anxious when I haven't done my assignments	1467	0.15	0.05	1.47
12	20	I feel normal when I ignore school assignments	1619	-0.29	0.05	0.89
13	21	When I feel lazy to study I remember the learning targets that have been made	1626	-0.32	0.06	0.94
14	6	When given a difficult task I feel challenged	1631	-0.33	0.06	1.04
15	2	I am sure the answers to the exam I did are correct	1644	-0.37	0.06	0.93
16	19	I feel anxious when I haven't finished my assignments	1678	-0.49	0.06	1.40
17	1	I complete assignments without cheating	1680	-0.49	0.06	1.02
18	5	Although I have a lot of schoolwork, I still complete it on time.	1691	-0.53	0.06	0.92
19	9	I submit my assignments on time	1710	-0.60	0.06	0.84
20	12	I organize time to do assignments so that tasks do not accumulate	1722	-0.64	0.06	0.90
21	13	When I encounter difficulties in learning, I ask my friends to discuss it	1726	-0.66	0.06	1.18



22	16	Although the assignments given by the teacher are difficult, I remain calm and try to understand them	1733	-0.68	0.06	0.81
23	23	I still complete school assignments even though I face difficulties	1776	-0.85	0.06	0.64
24	24	I choose not to attend school if the assignment has not been completed	1830	-1.07	0.07	1.56

Overview of Academic Resilience Based on Demographic Aspects

This study also explored whether there were significant differences in academic resilience based on demographic aspects such as gender, grade level, and province. The results indicated that only province demonstrated significant differences ($p < 0.05$). This suggests that regional disparities in resources and support play a critical role in students' academic resilience.

For instance, the highest academic resilience was found in students from West Java, while those from Central Java showed lower resilience. This indicates that regional differences in educational and athletic infrastructure may impact resilience development. Such disparities should be addressed to ensure equal opportunities for resilience development across regions.

Table 4. Distribution of Student Academic Resilience Based on Demographic Aspects

No	Aspect	Mean Measure	Reliability	F-Test	Prob>F
1	Gender			1.94	0.16
	Male	0.47	0.88		
	Female	0.56	0.84		
2	Grade Level			2.29	0.10
	10 th Grade	0.46	0.81		
	11 th Grade	0.61	0.91		
	12 th Grade	0.56	0.85		
3	Province			3.18	0.00
	Banten	0.42	0.77		
	Jakarta	0.50	0.87		
	West Java	0.61	0.79		
	Central Java	0.25	0.84		
	Lampung	0.80	0.87		
Yogyakarta	0.74	0.93			

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

Overview of Students' Academic Resilience in Terms of Demographic Aspects and Responses to Academic Resilience Scale Items

The study also examined variations in academic resilience based on demographic aspects at the item level of the Academic Resilience Scale. This was done to further explore how demographic factors, such as gender and region, influence students' responses to resilience-related items. The Differential Item Functioning (DIF) test was used to identify whether certain items functioned differently across these groups.

For example, the items related to performance anxiety, such as Item 4 ("I worry about getting low marks when submitting assignments"), showed significant DIF based on gender. This suggests that male and female students experience performance anxiety differently, which mirrors similar findings in sports psychology. Understanding these differences can help tailor psychological interventions to better support athletes' emotional regulation and resilience under pressure.

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 and Female	Item 2 "I am sure the answers to the exam I did are correct"	0.04
		Item 4 "I worry about getting low marks when submitting assignments"	0.00
		Item 6 "When given a difficult task I feel challenged"	0.00
		Item 7 "I choose to give up if my efforts in studying are not successful"	0.00
		Item 9 "I submit my assignments on time"	0.03
		Item 10 "I am late in submitting school assignments"	0.00
		Item 12 "I organize time to do assignments so that tasks do not accumulate"	0.00
		Item 15 "I try not to get anxious when I haven't done my assignments"	0.00
		Item 17 "I panic when asked to do an assignment in front of the class"	0.01
		Item 18 "Anxiety when learning makes me lose my enthusiasm in learning"	0.02
		Item 19 "I feel anxious when I haven't finished my assignments"	0.00
		Item 20 "I feel normal when I ignore school assignments"	0.00
		Item 22 "When I don't achieve my target grade, it makes me lose my enthusiasm to study"	0.00
		Item 24 "I choose not to attend school if the assignment has not been completed"	0.00
2	Grade Level 10 th Grade 11 th Grade 12 th Grade	Item 1 "I complete assignments without cheating"	0.01
		Item 2 "I am sure the answers to the exam I did are correct"	0.00
		Item 4 "I worry about getting low marks when submitting assignments"	0.01
		Item 5 "Although I have a lot of schoolwork, I still complete it on time"	0.03
3	Province Banten Jakarta West Java Central Java Lampung Yogyakarta	Item 9 "I submit my assignments on time"	0.01
		Item 13 "When I encounter difficulties in learning, I ask my friends to discuss it"	0.00
		Item 15 "I try not to get anxious when I haven't done my assignments"	0.04
		Item 19 "I feel anxious when I haven't finished my assignments"	0.01

Overview of Student Academic Resilience Aspect Based on Gender, Grade Level, and Province

The analysis of the of the academic resilience aspects based on gender, grade level, and province reveal relatively consistent levels of confidence, control, composure, and persistence across these groups. However, small variations were observed, particularly in province, where students from West Java and Banten showed slightly higher confidence and control than their peers from other regions.

These results align with research in sports psychology, where athletes from different regions or backgrounds may exhibit varying levels of emotional regulation and resilience based on their resources and social support systems. For example, athletes in more resource-rich environments may have greater access to mental training programs that enhance resilience, while athletes from less developed areas may face more challenges in accessing such support.

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

Aspects of Academic Resilience Based on Gender					
No	Gender	Confidence %	Control %	Composure %	Persistence %
1	Male	33	25	24	18
2	Female	32	25	24	18
Aspects of Academic Resilience Based on Grade Level					
No	Grade Level	Confidence %	Control %	Composure %	Persistence %
1	10 th Grade	32	25	24	18
2	11 th Grade	33	25	24	18
3	12 th Grade	33	25	24	18
Aspects of Academic Resilience Based on Province					
No	Province	Confidence %	Control %	Composure %	Persistence %
1	Banten	33	25	34	18
2	Jakarta	32	26	24	18
3	West Java	33	25	24	18
4	Central Java	33	24	24	18
5	Lampung	31	26	24	18
6	Yogyakarta	32	25	25	18

Discussion

This study aimed to explore the academic resilience profile of vocational high school students, focusing on students from Banten, Jakarta, West Java, Central Java, Lampung, and Yogyakarta. The findings highlight the importance of assessing students' academic resilience, as it plays a crucial role in supporting both their academic success and overall well-being in an evolving educational landscape. In this study, the four aspects of academic resilience—confidence, control, composure, and commitment (Martin & Marsh, 2003)—were examined, revealing varied results across these dimensions.

Confidence and Control

Confidence and control were found to be significant predictors of academic resilience. Students with higher levels of confidence tend to perform better academically and are more self-directed in their learning processes (Hortigüela-Alcalá et al., 2021; A. Martin, 2024). Similarly, control, which refers to the ability to manage academic pressures and regulate emotional responses, is critical for both personal and academic success (Bai et al., 2023; Palacio & Acebes-Sánchez, 2022). These traits are equally important for athletes, as self-control and confidence are essential for managing performance anxiety, maintaining focus during competitions, and recovering from setbacks such as injuries or losses.

The results suggest that interventions targeting self-control training in areas such as emotional regulation, time management, and stress management could significantly improve students' resilience, particularly in high-stress academic situations. These findings hold relevance for sports psychology, where athletes face similar pressures and challenges. Just as students benefit from training to manage academic stress, athletes can improve their performance by enhancing their ability to regulate emotions, manage stress, and remain focused under pressure. By integrating self-control-based strategies across both domains, we can enhance resilience, enabling individuals to stay composed under pressure and overcome setbacks, whether in academics or sports.

Figure 1.

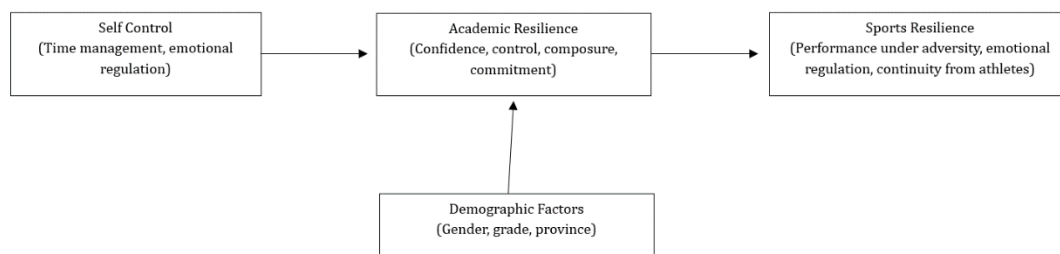


Figure 1 illustrates the conceptual framework showing how self-control (including time management and emotional regulation) influences academic resilience, which encompasses confidence, control, composure, and commitment. These elements are crucial for success both academically and in sports. Sports resilience, like academic resilience, focuses on an athlete's ability to perform under adversity, regulate emotions, and maintain continuity despite setbacks. Additionally, demographic factors such as gender, grade level, and province impact resilience by affecting access to resources and social support, helping to shape how individuals cope with challenges.

Composure and Commitment

Composure, the ability to remain calm under pressure, emerged as a critical element in maintaining emotional stability and academic performance (Ajmal et al., 2025; Edmizal et al., 2025; Samadi, 2025; Smith, 2020). Composure allows students to better manage anxiety and stay focused during exams or assignments. In sports psychology, composure is equally important, as athletes must remain calm during high-pressure situations, such as competitions or performance evaluations, to make rational decisions and perform at their best.

In contrast, commitment was the lowest-scoring dimension in this study, suggesting that many vocational students struggle with maintaining dedication and attachment to their academic goals. Similarly, athletes often face challenges in maintaining commitment to their training, recovery, and long-term athletic goals. This can be exacerbated by external distractions such as part-time jobs or family responsibilities, which are common among vocational students, and addressing these challenges may require fostering intrinsic motivation and focusing on goal-setting (Effah & Nkwantabisa, 2022; Han, 2021). Strengthening intrinsic motivation and ensuring clear, meaningful goals can bolster resilience and commitment, helping them remain focused in the face of setbacks.

The Role of Demographics

The study revealed that provincial demographic factors significantly affect academic resilience. Students in regions with better access to social support and educational resources were found to be better equipped to handle academic challenges (Portela-pino, 2026; Wahyu et al., 2025). These findings are relevant for sports psychology, where athletes in regions with more access to resources and support networks tend to exhibit better resilience. For example, athletes from urban areas with advanced facilities and mental health support may develop stronger resilience than those in less resource-rich areas.

Students from Jakarta and Lampung, where there are stronger social support networks and better access to educational resources, showed higher levels of academic resilience. In contrast, students from areas with fewer resources, like Central Java and Yogyakarta, demonstrated lower resilience, highlighting the role that regional disparities play in resilience development. The result highlights the need for targeted interventions in under-resourced areas to improve resilience. A consideration that is also important in sports psychology, where athletes from under-resourced regions may face similar challenges in developing mental resilience.

Implications for Educational Interventions

The analysis indicates that both educational systems and sports programs should implement strategies to target all aspects of resilience. Self-control interventions, including emotional regulation, time management, and decision-making, should be prioritized to help students improve their resilience and academic performance. Similar interventions in sports psychology can help athletes manage performance stress, regulate emotions during competition, and recover from setbacks such as injuries or losses.

School-based programs such as Solution-Focused Brief Counseling (Ndze et al., 2023), mindfulness-based practices (Erdemir et al., 2024; Turrado & Río, 2023; Yusuf et al., 2024), and cognitive-behavioral interventions (Liu et al., 2025) have shown promising results in improving students' emotional well-being and academic performance. Similarly, in sports, mental conditioning and mindfulness training have proven effective in helping athletes manage stress, improve focus, and enhance overall performance (Gamage et al., 2022). The data suggest that integrated, self-control-based interventions can benefit both students and athletes, addressing resilience in both domains.

Conclusions

This study was conducted with the aim of understanding and improving the academic resilience of vocational school students in Indonesia, which is essential for their adaptation to educational challenges in a rapidly changing era. The results showed that the level of students' academic resilience was generally moderate, indicating that while students demonstrated some ability to adapt, there was still a need for improvement in order to cope with academic pressures and thrive in an evolving educational landscape.

Significant differences in students' academic resilience were found to be influenced by demographic factors, such as the province where students attended school, suggesting that the regional context plays a significant role in shaping academic resilience. This highlights the importance of considering local factors when designing interventions to strengthen resilience among students.

Cognitive skills, including problem-solving and critical thinking, were found to contribute to students' perseverance in challenging academic situations. The importance of measuring academic resilience was



emphasized in this study, as it helps to identify students' strengths and weaknesses and guides the development of targeted interventions to enhance their adaptability.

This research identifies several key interventions that could enhance academic resilience, such as social-emotional skills development, cognitive skills training, and targeted strategies for coping with academic challenges. Additionally, it highlighted the need for future intervention models to incorporate components that strengthen self-control skills, as these are critical in supporting students to sustain resilience amidst academic difficulties.

Future research should investigate the long-term effectiveness of self-control training programs in vocational schools. Additionally, it would be valuable to explore how other factors, such as teacher-student relationships and peer support, contribute to academic resilience in diverse educational settings.

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