

***FOSTERING STUDENT RESILIENCE THROUGH SUSTAINABILITY
ACCOUNTING EDUCATION: EVIDENCE FROM HIGHER
EDUCATION INSTITUTIONS***

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Abstract

Purpose: This study aims to examine the influence of Sustainability Accounting Education (SAE) on student resilience in higher education. In the context of the transition toward a green economy, students are required not only to understand sustainability concepts but also to develop the psychological capacity to adapt to academic and environmental challenges.

Design/Methodology/Approach: A quantitative approach was employed using a survey method. Data were collected from students across higher education institutions and analyzed using simple linear regression to test the effect of Sustainability Accounting Education on student resilience.

Findings: The results indicate that Sustainability Accounting Education has a positive and significant effect on student resilience. The model explains a moderate proportion of variance in student resilience, suggesting that sustainability-oriented learning contributes meaningfully to the development of adaptive capacity among students.

Practical Implications: The findings suggest that integrating sustainability accounting into the curriculum can enhance students' adaptive capabilities, critical thinking, and readiness to face academic and professional challenges in a dynamic environment.

Originality/Value: This study contributes to the literature by providing empirical evidence on the direct relationship between Sustainability Accounting Education and student resilience, an area that remains underexplored. The integration of Transformative Learning Theory, Education for Sustainable Development (ESD), and Cognitive Adaptation Theory offers a comprehensive theoretical framework to explain the formation of student resilience.

Keywords: Sustainability Accounting Education; Student Resilience; Transformative Learning; Education for Sustainable Development

INTRODUCTION

Universities in Indonesia are currently confronted with increasingly complex challenges driven by digital transformation, economic uncertainty, and escalating climate change issues. Under these conditions, students are not only required to demonstrate academic competence but are also expected to possess resilience, defined as the capacity to adapt, withstand pressure, and recover from academic and social challenges. Student resilience has become a critical capability in a dynamic educational environment, particularly as higher education systems are increasingly influenced by sustainability demands and global economic transitions (Connor & Davidson, 2003; Global Environment Outlook, 2023). In the absence of adequate resilience, students may experience heightened stress, decreased motivation, and reduced ability to meet academic requirements effectively.

In parallel, accounting education has undergone significant transformation in response to global sustainability challenges. Accounting is no longer confined to financial reporting but has evolved toward sustainability accounting, which emphasizes the integration of environmental, social, and governance (ESG) dimensions into measurement, disclosure, and decision-making processes (Schaltegger & Burritt, 2018). This paradigm shift implies that accounting students are required to develop a broader understanding of how economic activities interact with sustainability outcomes. Consequently, students are expected to cultivate adaptive and forward-looking thinking to meet the evolving demands of the accounting profession. Prior studies have highlighted that sustainability accounting plays a strategic role in enhancing sustainability literacy and supporting decision-making in the green economy era (Sulbahri, 2025), while socio-environmental disclosures have been shown to influence firm value, reinforcing the importance of sustainability as a core dimension in modern accounting practices (Sulbahri, 2021).

From an educational perspective, sustainability-oriented learning has been associated with the development of critical thinking, reflective capacity, and adaptive behavior among students. Exposure to sustainability concepts enables students to better understand environmental risks, manage long-term uncertainty, and engage with complex socio-economic challenges (Lozano et al., 2020). These competencies are closely aligned with the core dimensions of resilience, suggesting that sustainability accounting education may contribute to the development of student resilience. However, existing empirical studies, particularly in Indonesia, have predominantly focused on the impact of sustainability accounting at the organizational level, such as corporate social responsibility, ESG performance, and financial outcomes. Limited attention has been given to its influence on individual-level outcomes, particularly student resilience. This gap indicates a lack of empirical evidence linking sustainability accounting education to psychological and adaptive capacities among students.

The present study addresses this gap by examining the relationship between Sustainability Accounting Education (SAE) and student resilience within the context of higher education. The focus on students from multiple universities in City X is considered

relevant due to the heterogeneity of institutional characteristics and student backgrounds, which allows for a more comprehensive understanding of how sustainability accounting is perceived and internalized. This diversity provides a valuable empirical setting to investigate whether sustainability-oriented education contributes to the development of resilience among students.

In the context of the transition toward a green economy, students are required not only to acquire technical competencies but also to develop adaptive capacities that enable them to navigate uncertainty and complexity in future professional environments. Therefore, this study contributes by providing empirical evidence on the role of sustainability accounting education in shaping student resilience, while also offering implications for the development of accounting curricula that are more responsive to sustainability challenges.

LITERATURE REVIEW

Transformative Learning Theory explains that the educational process does not merely generate new knowledge, but also transforms individuals' perspectives, assumptions, and ways of understanding the world through critical reflection (Mezirow, 1991). In the context of sustainability accounting education, students are exposed to complex issues related to the interconnection between economic activities, environmental impacts, and social responsibility. Such exposure encourages critical reflection, which leads to the development of more adaptive and systemic ways of thinking. This transformation of perspective is considered fundamental in shaping individuals' capacity to respond to change, which is closely associated with the concept of resilience.

From a conceptual perspective, Education for Sustainable Development (ESD) emphasizes that sustainability-oriented education aims to develop individuals who are capable of systemic thinking, possess environmental awareness, and are able to respond adaptively to change (UNESCO, 2015). Learning processes that integrate sustainability principles are expected to enhance not only cognitive competencies but also affective and behavioral dimensions. Therefore, sustainability accounting education is not limited to the development of technical accounting skills, but also contributes to the formation of adaptive capacities required to cope with uncertainty. These characteristics are aligned with the core dimensions of resilience, particularly the ability to adapt and persist in dynamic environments.

Furthermore, Cognitive Adaptation Theory suggests that individuals' understanding of risks, uncertainty, and environmental dynamics strengthens psychological adaptation mechanisms (Taylor, 1983). When students are exposed to sustainability-related issues such as climate risks, environmental challenges, and policy dynamics, a more comprehensive cognitive framework is developed. This framework enables individuals to manage academic pressure and respond more effectively to complex situations. Consequently, sustainability accounting education has the potential to enhance student resilience by strengthening cognitive and adaptive capacities.

Based on the integration of these theoretical perspectives, sustainability accounting education can be conceptualized as a factor that promotes cognitive transformation, environmental awareness, and adaptive thinking. These processes are expected to contribute to the development of student resilience.

Sustainability accounting education refers to a learning process that integrates sustainability concepts into the accounting curriculum, including ESG reporting, environmental impact measurement, and sustainability analysis. This form of education is designed not only to improve students' technical competencies but also to enhance critical thinking skills and ecological awareness (Burritt et al., 2019). In the Indonesian context, sustainability accounting has been recognized as a strategic tool in supporting decision-making within the green economy and in fostering adaptive mindsets among students (Sulbahri, 2025).

Student resilience, on the other hand, refers to the ability of students to cope with academic pressure, overcome challenges, and adapt to changes within the learning environment. It encompasses multiple dimensions, including cognitive capacity, stress management, self-efficacy, and mental endurance (Connor & Davidson, 2003). In an increasingly dynamic and uncertain educational environment, resilience is considered an essential capability that supports both academic success and long-term adaptability.

Based on the theoretical arguments presented, it is assumed that sustainability accounting education contributes to the development of student resilience through the enhancement of adaptive thinking and awareness of complex environmental challenges. Therefore, the hypothesis of this study is formulated as follows:

H1: Sustainability Accounting Education has a positive effect on student resilience among students in City X.

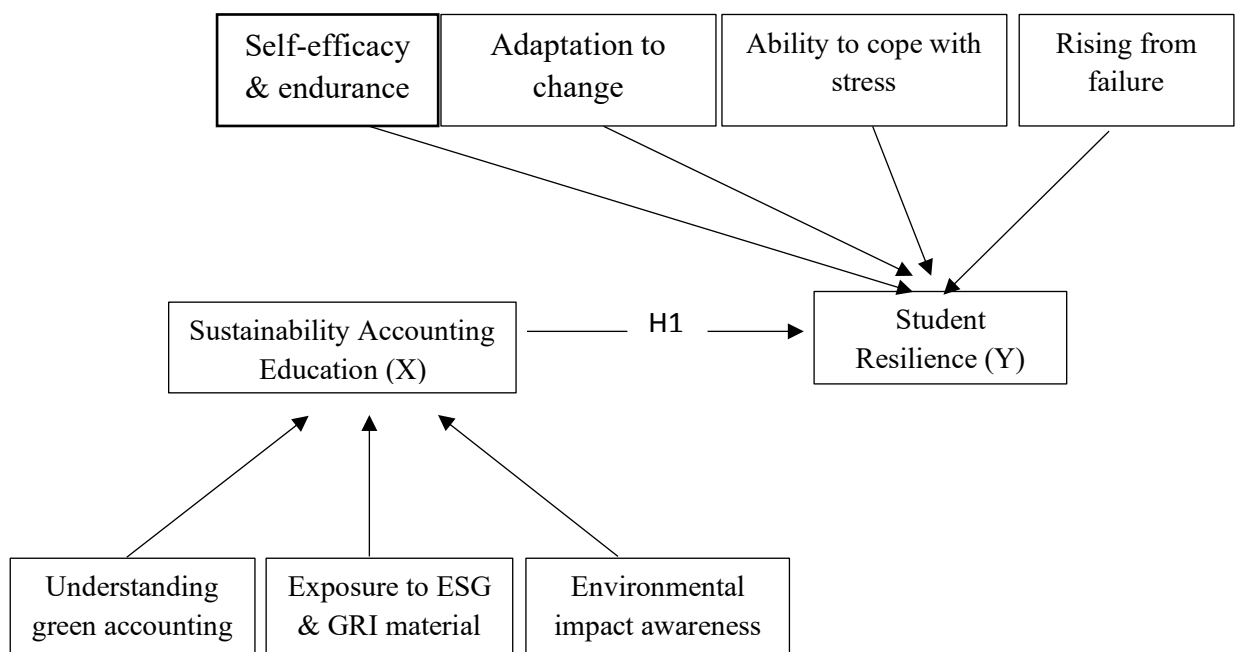


Figure 1. Research Conceptual Model

Source: Author Research (2026)

The conceptual model of this study illustrates a direct relationship between Sustainability Accounting Education (X) as the independent variable and Student Resilience (Y) as the dependent variable. This relationship is grounded in the assumption that sustainability-oriented learning enhances students' adaptive capacity through critical reflection, awareness of environmental risks, and the development of systemic thinking.

However, the model remains limited to a direct effect framework and does not incorporate mediating or moderating variables that may explain the underlying mechanisms of the relationship. As a result, the model provides an initial empirical explanation of the association between sustainability accounting education and student resilience, rather than a fully developed causal structure.

RESEARCH METHODS

This study employs a quantitative approach with an explanatory research design aimed at examining the causal relationship between the independent variable and the dependent variable. The survey method was utilized to collect empirical data from students across several universities in City X.

The population of this study consists of active students enrolled in universities in City X who have been exposed, or have the potential to be exposed, to sustainability accounting content within their academic curriculum. A purposive sampling technique was applied to ensure that respondents met specific criteria relevant to the research objectives. The sampling criteria include: (1) students who have been active for at least three semesters, (2) students who have taken or are currently taking accounting-related courses, and (3) students who are willing to participate in the study.

The sample size was determined based on the minimum requirement for regression analysis, following the guideline that suggests a minimum of 5–10 observations per indicator (Hair et al., 2019). Given that the study employs 12 indicators, the minimum required sample size was calculated as 120 respondents. To enhance the reliability and robustness of the analysis, approximately 150 respondents were targeted. Primary data were collected using an online questionnaire distributed through Google Forms. The measurement instrument was developed based on predefined operational indicators for Sustainability Accounting Education (X) and Student Resilience (Y). A five-point Likert scale was used, ranging from 1 (strongly disagree) to 5 (strongly agree), to capture respondents' perceptions.

The quality of the measurement instrument was evaluated through validity and reliability testing. Validity was assessed using the Corrected Item–Total Correlation method, with a minimum threshold of 0.30 to indicate acceptable validity. Reliability was tested using Cronbach's Alpha, where a value of ≥ 0.70 indicates acceptable reliability and ≥ 0.80 indicates high reliability (Ghozali, 2016). Data analysis was conducted using statistical

software. Descriptive statistical analysis was first performed to describe the characteristics of respondents and the distribution of responses. Prior to hypothesis testing, classical assumption tests were conducted, including normality of residuals and linearity of the relationship between variables, to ensure the suitability of the regression model.

Simple linear regression analysis was employed to examine the effect of Sustainability Accounting Education (X) on Student Resilience (Y). The regression model is expressed as follows:

$$Y = \alpha + \beta X + \varepsilon$$

where Y represents student resilience, X represents sustainability accounting education, α is the constant, β is the regression coefficient, and ε is the error term.

Hypothesis testing was conducted using the t-test to evaluate the significance of the independent variable on the dependent variable. In addition, the coefficient of determination (R^2) was used to assess the proportion of variance in student resilience explained by sustainability accounting education. The hypothesis is accepted if the p-value is less than 0.05 and the regression coefficient (β) is positive.

RESULTS

The results are presented to describe the characteristics of the data, evaluate the measurement instrument, and examine the relationship between variables. Descriptive statistics indicate that Sustainability Accounting Education has a mean value of 4.12 with a standard deviation of 0.63, suggesting that students demonstrate a high level of understanding and perception toward sustainability accounting learning. The highest perception is reflected in the relevance of sustainability accounting to professional needs. Meanwhile, Student Resilience has a mean value of 4.08 with a standard deviation of 0.68, indicating that students exhibit a relatively high level of resilience in coping with academic pressure, adapting to change, and maintaining mental endurance.

Table 1. Descriptive Statistics of Variables

Variable	Mean	Std. Dev	Category
Sustainability Accounting Education (X)	4.12	0.63	High
Student Resilience (Y)	4.08	0.68	High

Source: processed data (2026)

The quality of the measurement instrument was assessed using validity and reliability tests. All indicators show Corrected Item–Total Correlation values above 0.30, indicating that each item is valid. Furthermore, Cronbach’s Alpha values exceed 0.80 for both variables, indicating a high level of internal consistency.

Table 2. Validity and Reliability Results

Variable	Range of r-values	Cronbach's Alpha	Interpretation
Sustainability Accounting Education (X)	0.577–0.654	0.872	Valid & Highly Reliable
Student Resilience (Y)	0.544–0.682	0.894	Valid & Highly Reliable

Source: processed data (2026)

Regression analysis was conducted to examine the effect of Sustainability Accounting Education on Student Resilience. The results indicate that Sustainability Accounting Education has a positive regression coefficient of 0.58 with a significance value of 0.000 (<0.05), indicating a statistically significant effect. The t-value of 8.72 further confirms the strength of the relationship between the variables.

The coefficient of determination (R^2) is 0.340, indicating that 34% of the variance in Student Resilience can be explained by Sustainability Accounting Education, while the remaining 66% is influenced by other variables not included in the model.

Table 3. Regression and Goodness of Fit Results

Variable / Statistic	Value
Constant (α)	1.42
Coefficient (β)	0.58
t-value	8.72
p-value	0.000
R	0.583
R Square	0.340
Adjusted R Square	0.336
Std. Error	0.420

Source: processed data (2026)

The findings indicate that Sustainability Accounting Education significantly contributes to the development of Student Resilience. The positive coefficient suggests that increased exposure to sustainability-oriented learning is associated with higher levels of adaptive capacity among students. The relatively high mean values across both variables suggest that respondents generally perceive sustainability accounting education positively and demonstrate strong resilience. However, the concentration of high scores may also indicate a tendency toward favorable responses.

The statistical significance ($p < 0.05$) and high t-value confirm that the relationship is robust and not due to random variation. Nevertheless, the R^2 value of 0.340 indicates that the explanatory power of the model is moderate, suggesting that Student Resilience is influenced by additional factors beyond Sustainability Accounting Education. Based on

these results, the hypothesis is accepted, indicating that Sustainability Accounting Education has a positive and significant effect on Student Resilience among students in City X.

DISCUSSION

The results indicate that Sustainability Accounting Education has a positive and significant effect on Student Resilience, as reflected by the regression coefficient ($\beta = 0.58$) and t-value (8.72; $p < 0.001$). This finding suggests that increased exposure to sustainability-oriented accounting learning is associated with higher levels of students' adaptive capacity in dealing with academic pressure, environmental uncertainty, and dynamic learning conditions.

From a theoretical perspective, this finding is consistent with Transformative Learning Theory, which posits that learning processes involving critical reflection are capable of transforming individuals' frames of reference, including their beliefs, assumptions, and ways of interpreting experiences (Mezirow, 1991). Sustainability accounting education exposes students to complex issues such as environmental impact, ESG risks, and long-term sustainability challenges. Such exposure stimulates reflective thinking and cognitive restructuring, enabling students to reinterpret academic and social challenges more constructively. As a result, students are better equipped to develop adaptive responses, which form the core dimension of resilience.

The findings are also aligned with the framework of Education for Sustainable Development (ESD), which emphasizes that sustainability-oriented education fosters competencies such as critical thinking, systemic understanding, and adaptive decision-making (UNESCO, 2015). In this regard, sustainability accounting education extends beyond technical knowledge acquisition and contributes to the development of a sustainability-oriented mindset. This mindset enhances students' ability to respond to uncertainty and complexity, thereby strengthening their resilience. The role of education in shaping adaptive competencies highlights that resilience is not solely an inherent trait but can be developed through structured learning processes.

From a psychological standpoint, the results support Cognitive Adaptation Theory, which suggests that individuals who possess a deeper understanding of risks and environmental changes are more capable of developing effective coping strategies (Taylor, 1983). Students who are exposed to sustainability accounting concepts tend to develop a broader awareness of uncertainty and risk. This awareness enables them to process challenges more rationally and respond with greater psychological readiness. Consequently, resilience is strengthened not merely through experience, but through the cognitive frameworks developed during the learning process.

Empirically, the coefficient of determination ($R^2 = 0.34$) indicates that Sustainability Accounting Education explains 34% of the variance in Student Resilience. This contribution can be considered meaningful, given that resilience is a multidimensional construct influenced by various psychological, social, and environmental factors. The moderate explanatory power of the model suggests that sustainability accounting education functions

as a significant, yet not exclusive, determinant of student resilience. Other factors such as individual personality traits, social support, and learning environment are likely to play complementary roles.

The findings also reinforce prior arguments that sustainability literacy contributes to the development of adaptive mindsets among students, particularly in the context of the green economy (Sulbahri, 2025). Students who are accustomed to analyzing sustainability-related issues tend to exhibit systemic thinking, heightened risk awareness, and more mature problem-solving capabilities. These competencies are essential components of resilience, particularly in environments characterized by uncertainty and rapid change.

Furthermore, this study addresses an important research gap, as empirical investigations linking sustainability accounting education to student resilience remain limited, particularly in developing countries. Previous studies have predominantly focused on organizational-level outcomes such as ESG performance, corporate value, and financial indicators. By shifting the focus to individual-level outcomes, this study provides new insights into how sustainability-oriented education contributes not only to knowledge development but also to the formation of psychological capacity among students.

The findings of this study offer both theoretical and practical implications. Theoretically, the results extend existing literature by demonstrating that sustainability accounting education can serve as a determinant of student resilience, thereby integrating educational theory with psychological outcomes. Practically, the findings highlight the importance of strengthening accounting curricula through the integration of sustainability issues. Such integration is essential to prepare future professionals who are not only technically competent but also resilient and adaptive in navigating the challenges of the green economy.

CONCLUSIONS AND RECOMMENDATIONS

The findings demonstrate that Sustainability Accounting Education has a positive and significant effect on Student Resilience among students from various universities in City X. This result indicates that learning processes which incorporate sustainability concepts—such as ESG, environmental impact, and sustainability reporting—contribute to enhancing students' capacity to cope with academic pressure, adapt to changing conditions, and recover from challenging situations.

From a theoretical perspective, the findings support the relevance of Transformative Learning Theory, which emphasizes the role of critical reflection in reshaping individuals' perspectives (Mezirow, 1991), as well as the Education for Sustainable Development framework, which highlights the development of adaptive and systemic competencies (UNESCO, 2015). In addition, the results are consistent with Cognitive Adaptation Theory, which suggests that understanding risk and environmental dynamics strengthens individuals' coping mechanisms (Taylor, 1983). The integration of these theoretical perspectives indicates that sustainability-oriented education contributes not only to knowledge acquisition but also to the development of adaptive psychological capacity.

Empirically, the coefficient of determination ($R^2 = 0.34$) indicates that Sustainability Accounting Education explains a meaningful proportion of variation in Student Resilience. Although the explanatory power of the model is moderate, the findings confirm that sustainability-oriented learning functions as a significant factor in shaping students' adaptive capacity in the context of increasing academic and environmental complexity.

Despite these contributions, the study is subject to certain limitations. The model focuses on a direct relationship between Sustainability Accounting Education and Student Resilience, without incorporating potential mediating variables that may explain the underlying mechanisms of this relationship. In addition, the scope of the sample is limited to students in City X, which may affect the generalizability of the findings.

Future research is therefore recommended to incorporate mediating variables such as sustainability mindset, academic self-efficacy, or environmental awareness in order to provide a more comprehensive understanding of the mechanism through which sustainability education influences resilience. Furthermore, the use of mixed-method approaches is suggested to capture deeper insights into students' experiences and perspectives, thereby enriching the empirical findings.

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