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The Influence of Perceived Education Quality on Self-Efficacy Using the Structural Equation Modeling (SEM) Approach with AMOS

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ABSTRACT

The purpose of this study is to examine the impact of Perceived Education Quality on Academic Self-Efficacy, specifically in the context of students majoring in hospitality and tourism. This research employs a quantitative approach, with data analysis conducted using the Structural Equation Modeling (SEM) method, operated through AMOS 24 software, to evaluate the relationship between exogenous and endogenous variables. A questionnaire was distributed to 200 respondents via a Google Form link, targeting hospitality and tourism students in Bandung as the sample. This study involves two variables: Perceived Education Quality as the exogenous variable and Academic Self-Efficacy as the endogenous variable. The findings indicate that Perceived Education Quality has a positive and significant effect on Academic Self-Efficacy. Educational institutions are encouraged to focus on enhancing Perceived Education Quality by improving teaching methods, curriculum design, learning resources, and facilities to foster students' self-efficacy and improve academic outcomes. For future research, it is recommended to explore additional variables such as institutional reputation, student engagement, and technological integration. Expanding the research context to different educational settings or cultural environments would also provide more comprehensive insights. Moreover, investigating mediating and moderating variables, such as motivation and academic stress, could further deepen the understanding of these relationships.

PENDAHULUAN

Adequate and modern educational facilities play a crucial role in shaping students' perceptions of the quality of education they receive. When facilities such as well-equipped science laboratories, digital libraries, classrooms with advanced technology, and adequate sports areas are available, students feel more valued and supported in their learning process. This not only enhances their motivation to learn but also conveys the impression that the educational institution is committed to maintaining high standards of service (Kahraman & Alrawadieh, 2021). With facilities that align with contemporary needs, students find it easier to access diverse learning resources and engage in interactive learning activities. Consequently, they are more likely to view the education they receive as a valuable investment in their future.

Efficient administrative support plays an important role in shaping students' perceptions of educational quality. Services such as timely academic guidance, clear information, and well-organized data management create a more structured and reliable

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educational experience. Troxel et al (2021) explain cademic advising programs at various universities, such as the advisor-student counseling system in the United States, have shown positive impacts. Universities that proactively provide academic advising assist students in designing educational pathways tailored to their interests and abilities, enhance student satisfaction with administrative services, and improve their perception of the institution. When students' administrative needs are handled quickly and professionally, their perception of the institution becomes more positive. For example, academic guidance helps students design study plans that align with their interests and abilities, while providing reassurance that the institution supports their academic journey (Kumar, 2008). Good administrative services also make it easier for students to access educational facilities, such as rescheduling classes, submitting documents, and participating in campus activities.Effective administrative support, combined with a high-quality education system, strengthens students' trust and motivation while enhancing their pride in the institution. Therefore, improving administrative services should be a key part of efforts to enhance students' perceptions of educational quality.

A positive perception of educational quality plays an essential role in building and strengthening students' academic self efficacy . When students feel that facilities, teaching methods, curriculum, and support from educators are of high quality, they are more likely to believe in their ability to achieve academic goals. This is because perceived education quality provides meaningful and relevant learning experiences (Basili et al., 2020; Kahraman & Alrawadieh, 2021). A supportive learning environment equipped with modern technology helps students better understand the material, boosting their confidence in completing academic tasks. Additionally, strong interactions between students and teachers further enhance students' belief in their ability to overcome academic challenges. In the long term, improved academic self efficacy leads to better academic performance, higher motivation, and greater adaptability to the evolving demands of education. Therefore, educational institutions must continuously improve the quality perceived by students to create lasting positive impacts on their academic confidence.

Research related to Perceived Education Quality and Self efficacy has been conducted. The study conducted by Honicke & Broadbent (2016), this review integrates 12 years of research on the relationship between academic self efficacy and university student's academic performance, and known cognitive and motivational variables that explain this relationship. Basili et al (2020) Multidimensional Perceived Self efficacy Scale for Children has been developed as an important tool to measure Self efficacy in school contexts. Then the research conducted by Calvo-Porral et al (2013) The purpose of this paper is to address two issues. First research goal is about analyzing differences in perceived quality in higher education (HE) between a private and a public university centre. Second, the research aims to analyze which are the key dimensions in perceived quality in HE from the students' standpoint. However, no research has yet examined the influence of perceived education quality on academic self efficacy specifically in the context of students majoring in hospitality and tourism

This research is vital for bridging the gap between the unique educational needs of hospitality and tourism students and the broader academic frameworks of perceived quality and self efficacy. The findings will not only enhance the learning experiences of these students

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but also position educational institutions as leaders in producing competent professionals for the global hospitality and tourism industry. Therefore, the purpose of this study is to examine the impact of perceived education quality on academic self efficacy , specifically in the context of students majoring in hospitality and tourism

METODE

This research uses a quantitative approach, with data analysis conducted using the Structural Equation Modeling (SEM) method, operated through AMOS24 software, to examine the relationship between exogenous and endogenous variables. The focus of the analysis is hypothesis testing, aimed at determining whether to accept or reject the proposed hypotheses. The questionnaire used in this study was adapted from research by Kahraman & Alrawadieh (2021). Following the guideline by Nunan et al. (2020), a sample size of at least 200 is required for SEM models with five or fewer constructs, each with at least two measured variables and a communality of 0.5 or higher. Accordingly, the questionnaire was distributed to 200 respondents via a Google Form link, targeting hospitality and tourism students in Bandung as the sample. This study includes two variables perceived education quality as the exogenous variable and academic self efficacy as the endogenous variable.

HASIL

Data Normality Assumption Test

For data analysis based on Structural Equation Modeling (SEM), Hair et al. (2010) emphasize the importance of testing the assumptions of the data and variables under investigation, particularly through a normality test. This test is essential to determine whether the data distribution satisfies the normality assumption, a prerequisite for further processing and modeling. Analyzing the data distribution helps ensure that the SEM analysis is valid and reliable, as non-normal data can affect the robustness of the results. The normality test is conducted to confirm whether the data is suitable for SEM-based modeling, ensuring accurate estimation and hypothesis testing. The results of the data normality test are presented in Table 1 as follows:

Tabel 1 Data Normality Assumption Test

Variable	min	max	skew	c.r.	kurtosis	c.r.
SE10	3,0000	5,0000	-,0174	-,1268	-1,5250	-5,5683
SE9	3,0000	5,0000	-,0971	-,7092	-1,4707	-5,3702
SE8	3,0000	5,0000	-,0828	-,6047	-1,5879	-5,7982
SE7	3,0000	5,0000	-,0950	-,6938	-1,4110	-5,1521
SE6	3,0000	5,0000	-,0936	-,6838	-1,5473	-5,6499
SE5	3,0000	5,0000	-,1506	-1,0999	-1,2992	-4,7440
SE4	3,0000	5,0000	-,1523	-1,1126	-1,5287	-5,5821
SE3	3,0000	5,0000	-,1017	-,7425	-1,6257	-5,9361
SE2	3,0000	5,0000	-,0656	-,4788	-1,6213	-5,9202
SE1	3,0000	5,0000	-,1519	-1,1092	-1,4069	-5,1373
PEQ13	3,0000	5,0000	,0058	,0423	-1,5253	-5,5696
PEQ12	3,0000	5,0000	-,0765	-,5585	-1,5704	-5,7341
PEQ11	3,0000	5,0000	-,0765	-,5585	-1,5704	-5,7341

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Variable	min	max	skew	c.r.	kurtosis	c.r.
PEQ10	3,0000	5,0000	-,0520	-,3794	-1,2566	-4,5884
PEQ9	3,0000	5,0000	-,0154	-,1122	-1,2317	-4,4974
PEQ8	3,0000	5,0000	-,1490	-1,0883	-1,4607	-5,3338
PEQ7	3,0000	5,0000	-,0775	-,5659	-1,6192	-5,9126
PEQ6	3,0000	5,0000	-,0876	-,6398	-1,5421	-5,6311
PEQ5	3,0000	5,0000	-,0461	-,3364	-1,2286	-4,4862
PEQ4	3,0000	5,0000	-,0551	-,4022	-1,1870	-4,3343
PEQ3	3,0000	5,0000	-,0171	-,1251	-1,4830	-5,4152
PEQ2	3,0000	5,0000	-,1752	-1,2795	-1,5057	-5,4979
PEQ1	3,0000	5,0000	-,1329	-,9706	-1,3747	-5,0198
Multivariate					**3,8656**	**1,0196**

Source: Data Processing Results, 2024 (Using Software, AMOS 24 for Windows)

The estimation using the Maximum Likelihood (ML) method requires that observed variables meet the assumption of multivariate normality. Therefore, a test is necessary to evaluate the degree of multivariate normality in the data used in this study. This evaluation is conducted by examining the kurtosis values of the data.The multivariate normality test in AMOS 24.00 is performed by observing the critical ratio (C.R.) values for multivariate kurtosis. If the critical ratio falls within the range of ±2.58, the data is considered to be multivariately normally distributed. Consequently, the data is deemed normally distributed if the critical ratio (C.R.) for multivariate kurtosis is below the absolute value of 2.58 (Ghozali, 2020). Based on the table above, the critical ratio (C.R.) value for multivariate kurtosis is within the acceptable range of ±2.58. Thus, it can be concluded that the data used in this study is multivariately normally distributed, meeting the assumptions required for Maximum Likelihood estimation. This ensures the validity and reliability of further analyses conducted in this research.

Confirmatory Factor Analysis (CFA)

In research examining the influence of perceived education quality on self efficacy , data validity is a fundamental element that determines the accuracy of the research results. To ensure this, validity testing was conducted using the Confirmatory Factor Analysis (CFA) method, which aims to confirm the unidimensionality of the dimensions forming each latent variable. The results of the data testing are presented in Table 2 as follows:

Table 2 Results of Confirmatory Factor Analysis Validity Test

			Estimate	S.E.	C.R.	P
PEQ1	<---	PEQ	1,0000			
PEQ2	<---	PEQ	1,0941	,0553	19,7958	***
PEQ3	<---	PEQ	1,0275	,0558	18,4007	***
PEQ4	<---	PEQ	,8657	,0536	16,1536	***
PEQ5	<---	PEQ	,9161	,0530	17,2880	***
PEQ6	<---	PEQ	1,0734	,0565	18,9971	***
PEQ7	<---	PEQ	1,1395	,0567	20,0924	***
PEQ8	<---	PEQ	1,0610	,0547	19,4060	***
PEQ9	<---	PEQ	,8926	,0539	16,5617	***
PEQ10	<---	PEQ	,8954	,0543	16,4930	***

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			Estimate	S.E.	C.R.	P
PEQ11	<---	PEQ	1,1093	,0561	19,7563	***
PEQ12	<---	PEQ	1,1240	,0554	20,2996	***
PEQ13	<---	PEQ	1,0073	,0580	17,3672	***
SE2	<---	SE	1,1136	,0613	18,1785	***
SE3	<---	SE	1,1234	,0603	18,6423	***
SE4	<---	SE	1,1044	,0583	18,9471	***
SE5	<---	SE	,9246	,0571	16,2071	***
SE6	<---	SE	1,0532	,0603	17,4542	***
SE7	<---	SE	,9593	,0589	16,2896	***
SE8	<---	SE	1,0945	,0604	18,1163	***
SE9	<---	SE	1,0226	,0588	17,3823	***
SE10	<---	SE	1,0562	,0593	17,8226	***

Source: Data Processing Results, 2024 (Using Software, AMOS 24 for Windows)

Table 2 shows that overall, the indicators are valid because the p-value is below 0.05, or the Critical Ratio (CR) value is above 2.0. According to Ghozali (2020), two main criteria are used to determine the validity of an indicator. Critical Ratio (CR) above 2.0 The CR value indicates the significance of the relationship between an indicator and the latent construct being measured. If the CR value is above 2.0, the indicator is considered to have a sufficiently strong and significant relationship with its construct. P-value below 0.05 The probability value, or p-value, must be below 0.05, which indicates that the relationship is statistically significant. In other words, the indicator is truly relevant in explaining the construct and not merely a result of chance.

Table 3 Results of AVE and CR

Variable		Average Variance Extracted (AVE)	Construct Reliability (CR)
Perceived Quality	**Education**	0,789	0,853
Self efficacy		0,721	0,803

Sumber : Hasil Pengolahan Data, 2024 (Menggunakan Excel)

Validity testing using the Average Variance Extracted (AVE) test is a confirmatory test that examines the average variance extracted among indicators of a latent variable. It meets the criteria if AVE > 0.5. A research instrument is considered reliable if the acceptable reliability threshold is met, which is a Construct Reliability (CR) value > 0.7.

Structural Model Fit

The structural model analysis focuses on evaluating the parameters that represent the causal relationships or the influence of one latent variable on another latent variable. This step is crucial in understanding how variables interact and contribute to the overall model. Figure 1 below presents the full structural model, illustrating the parameter estimation for each variable in this study. Specifically, it highlights the standardized loading factor estimations within the structural model, showcasing the influence of perceived education quality on self

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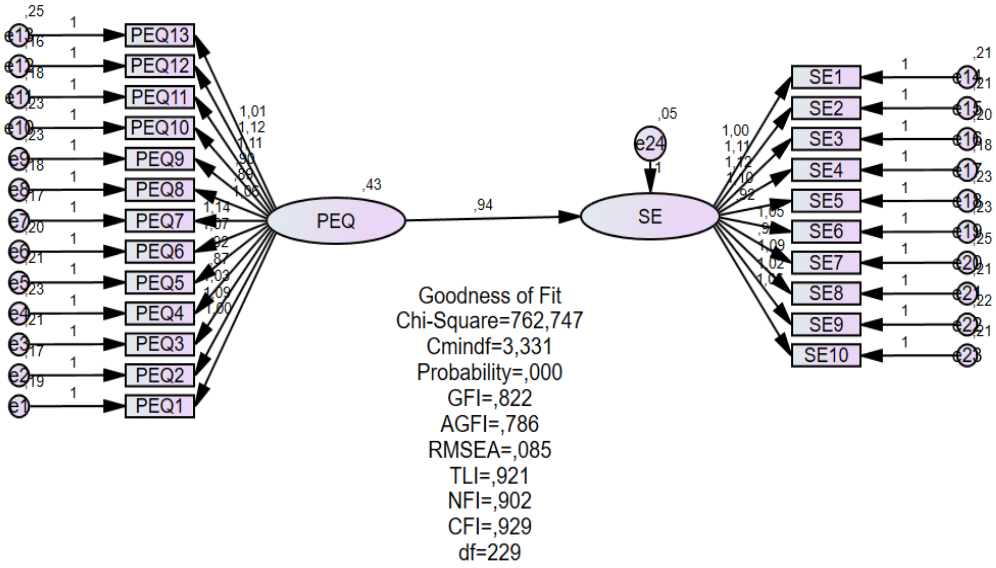
efficacy . These estimations provide insights into the strength and significance of the relationships, serving as a foundation for hypothesis testing and further interpretation of the model's dynamics.



Gambar 4. 1 *Structural Model*

Overall Model Fit

The overall model fit test is conducted to evaluate the general degree of fit or the goodness of fit of the model. This evaluation ensures that the model aligns well with the observed data and provides a reliable representation of the relationships among variables. In testing the goodness of fit, assessment criteria can be applied based on the opinions of various experts. These criteria serve as benchmarks for determining whether the model meets acceptable standards of fit. The relevant indicators and their corresponding thresholds are presented in Table 4 below:

Table 4 Results Goodness Of Fit

Test Statistics	Test Criteria	Statistik Uji	Test Results
Chi square	-	762,747	Fit
Degree of Freedom	-	229	Fit
p-value	> 0.05	0.00	Not Fit
Cmin/DF	< 2.00	3,332	Marginal Fit
Root Mean Square Error of Approximation	< 0.08	0.085	Fit
Goodness of Fit Index	≥ 0.90	0.822	Maginal Fit
Adjusted Goodness of Fit	≥ 0.90	0.786	Marginal Fit

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Comparative Fit Index	≥ 0.90	0,929	Fit
Tucker Lewis Index	≥ 0.90	0.921	Fit

Source: Data Processing Results, 2024 (Using Software, AMOS 24 for Windows)

Used in the evaluation, several indices meet the good fit criteria, including chi-square, degree of freedom, adjusted goodness of fit index (AGFI), CMIN/DF, root mean square error of approximation (RMSEA), goodness of fit index (GFI), comparative fit index (CFI), and Tucker-Lewis index (TLI). However, one index, namely the p-value, still does not meet the fit criteria.

Hypothesis testing

Hypothesis testing was conducted using a two-tailed test with a significance level of 5%. The hypothesis is accepted if the t-value is greater than 1.96 (Hair, 2010). In the AMOS 24 software, the t-value is represented by the Critical Ratio (C.R.) in the Regression Weight of the fit model. If the Critical Ratio (C.R.) is ≥ 1.96 or the probability value (P) is ≤ 0.05, then H0 is rejected, and the research hypothesis is accepted.

Table 5 Regresion Weight

			Estimate	S.E.	C.R.	P
SE	<---	PEQ	,9362	,0558	16,7639	***

Source: Data Processing Results, 2024 (Using Software, AMOS 24 for Windows)

Based on the table 5, it is evident that Perceived Education Quality significantly influences Self efficacy . This is demonstrated by a calculated T-value (C.R) greater than the critical T-table value of 1.96 (Hair, 2010). The analysis shows that Perceived Education Quality has a positive and significant effect on the variable Self efficacy . Specifically, the C.R value of 16.7639 > 1.96 and the p-value of 0.000 < 0.05, indicating statistical significance. This result leads to the rejection of H0, meaning the research hypothesis is accepted. These findings confirm the direct and meaningful relationship between Perceived Education Quality and Self efficacy , highlighting the importance of quality education in fostering students' confidence in their academic abilities.

PEMBAHASAN

The findings from this study, which highlight the significant positive influence of Perceived Education Quality (PEQ) on Self-Efficacy (SE), align with the broader literature emphasizing the critical role of education quality in shaping students' confidence and academic outcomes. The significant relationship demonstrated by the C.R value of 16.7639 > 1.96 and a p-value of 0.000 < 0.05 supports the notion that students' perception of education quality directly impacts their belief in their ability to achieve academic goals. This is consistent with research by Annamdevula & Bellamkonda (2016), which underscores the importance of educational facilities and resources in enhancing perceived quality, and studies by Galla et al (2014) indicating that higher academic self-efficacy correlates with improved academic performance. Specifically, in the context of Tourism and Hospitality (T&H) education, where the need for qualified graduates is paramount, perceived education quality has been identified as a critical factor influencing students' career preparedness (Choi et al., 2013). The results of this study reinforce the argument that quality education in T&H programs is essential not

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only for academic success but also for fostering self-efficacy, a key predictor of career readiness and motivation. This provides valuable insights for educational institutions, particularly in fields where industry-specific competencies are crucial, to prioritize and enhance perceived education quality to better support students' academic and professional development.

SIMPULAN

The hypothesis testing results indicate a significant and positive relationship between Perceived Education Quality (PEQ) and Self-Efficacy (SE). This is demonstrated by the Critical Ratio (C.R.) value of 16.7639, which exceeds the threshold of 1.96, and a p-value of 0.000, which is below the significance level of 0.05. These findings confirm that the research hypothesis is accepted, while the null hypothesis (H_0) is rejected. The results suggest that Perceived Education Quality directly influences Self-Efficacy, emphasizing that improvements in the perceived quality of education can enhance students' confidence in their ability to achieve academic goals. This highlights the critical role of providing high-quality educational resources, facilities, and teaching methodologies in fostering positive academic self-efficacy among students. These findings underline the importance of educational institutions prioritizing quality to support students' development and success in their academic journeys. Educational institutions should focus on enhancing perceived education quality through improvements in teaching methods, curriculum design, learning resources, and facilities to boost students' self-efficacy and academic outcomes. Targeted support programs, student-centered teaching strategies, and faculty development initiatives can further strengthen students' confidence and satisfaction. Policymakers should prioritize quality assurance and student-focused initiatives to ensure consistent educational improvements. For future research, exploring additional variables such as institutional reputation, student engagement, and technological integration is recommended, along with expanding the context to different educational settings or cultural environments. Longitudinal studies could provide insights into how perceived education quality impacts self-efficacy over time, while examining mediating and moderating variables such as motivation and academic stress would deepen understanding of these relationships. Such efforts would contribute to more comprehensive strategies for enhancing educational quality and fostering student success.

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