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The Relationship between Career Anxiety and Digital Competence with Students' Self-Efficacy in the Era of Automation and Artificial Intelligence

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ABSTRACT

The rapid development of automation and artificial intelligence has reshaped workplace demands, requiring final-year students to develop strong psychological readiness and digital competence. These changes can lead to career anxiety, which may undermine students' self-efficacy. This study aimed to examine the relationships among career anxiety, digital competence, and students' self-efficacy in the era of automation and AI. Using a quantitative correlational design with purposive sampling, 100 final-year students in Bandar Lampung participated in the study. Data were collected using three 4-point Likert scales: the Self-Efficacy Scale, the Career Anxiety Scale, and the Digital Competence Scale, with Cronbach's alpha coefficients of 0.82, 0.79, and 0.84, respectively. Data analysis employed Pearson correlation and multiple linear regression using SPSS. The findings showed that career anxiety was significantly related to self-efficacy ($r = 0.432$, $p < 0.001$), while digital competence demonstrated a stronger correlation ($r = 0.649$, $p < 0.001$). Regression results indicated that both variables jointly influenced self-efficacy ($F = 43.813$, $p < 0.001$), contributing 47.5% to its variance, with digital competence being the most dominant predictor ($\beta = 0.569$). These findings support Social Cognitive Career Theory, which highlights that both psychological and technical factors Influence self-efficacy development. Therefore, universities should implement integrated strategies to strengthen students' digital competence while mitigating career anxiety, thereby enhancing their confidence and readiness for future work environments.

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1. INTRODUCTION

Research Phenomenon

The contemporary labor market is undergoing an unprecedented transformation driven by rapid advances in artificial intelligence and automation technologies, creating significant employment challenges for university graduates. Evidence from international labor market analysis indicates that entry-level employment opportunities have shrunk significantly in sectors heavily exposed to generative artificial intelligence, with recent graduates experiencing declining job placement prospects compared to the previous decade [1], [2]. Specifically, research shows a significant correlation between AI proficiency and employability outcomes, with graduates with advanced or expert AI skills significantly more likely to secure employment in their disciplines. At the same time, those with only basic technological knowledge face higher unemployment rates or are forced to work in positions unrelated to their academic preparation [3], [4]. This structural shift represents more than a temporary labor market fluctuation; rather, it marks a fundamental reconceptualization of competency requirements, forcing aspiring professionals to navigate increasingly complex career paths marked by uncertainty about technological skill requirements and employability.

For undergraduate students, these macroeconomic transformations directly impact acute psychological distress and developmental challenges. A systematic literature review provides compelling evidence that undergraduate students experience substantial career-related anxiety, with empirical data indicating that students experience anxiety about the world of work at varying levels of severity, ranging from moderate to high [5], [6]. This psychological burden manifests itself through cognitive, emotional, and behavioral dimensions, including persistent worries about job placement, fears of inadequate professional preparation, and diminished self-confidence in personal abilities to meet the demands of the contemporary workplace [7]. This anxiety increases as students approach graduation, creating a psychological tipping point at which self-beliefs about personal abilities become crucial in determining whether students will embrace or avoid career exploration and job-seeking behaviors.

Research Problems

Although scholarly research on self-efficacy in career contexts has grown rapidly in recent decades, the existing literature reveals a significant gap in understanding how career anxiety and digital competence interact to shape self-efficacy beliefs among final-year college students. Previous research using the Social Cognitive Career Theory framework has established that self-efficacy is a key predictor of career interest, career choice intentions, and career-related behaviors [8], [9]. However, most studies used cross-sectional designs within limited geographic contexts and disciplinary domains, thereby limiting theoretical generalizability and obscuring potential contextual moderators of the relationship between these psychological constructs [8]. More importantly, the intersection of digital competence and career anxiety as dual predictors of self-efficacy has received minimal scholarly attention, despite growing recognition that mastery of technical skills is an important

contemporary antecedent of psychological self-confidence, career readiness, and successful job transitions [10], [11].

The observed research gap is particularly evident given the contemporary emphasis on digital competencies in higher education assessment frameworks. International frameworks such as DigComp 3.0 have been developed specifically to operationalize digital competencies across different proficiency levels and competency domains, yet empirical investigations examining how digital competencies operationalized through these frameworks impact self-efficacy beliefs are scarce [12]. The European Union's DigComp 3.0 framework explicitly integrates artificial intelligence competencies across all competency domains and proficiency levels, reflecting institutional recognition that digital capabilities now encompass complex interactions with intelligent systems. However, educational psychology research has not sufficiently explored how mastery of these digital competencies translates into psychological self-efficacy and reduced career anxiety [12], [13]. Furthermore, while individual investigations have examined the determinants of self-efficacy through laboratory-based or discipline-specific designs, research using correlational methodologies to simultaneously assess career anxiety and digital competencies as joint predictors of self-efficacy in actual university populations remains limited, particularly in non-Western educational contexts.

The theoretical integration of career anxiety, digital competence, and self-efficacy remains underdeveloped within the Social Cognitive Career Theory framework. Although foundational work by Lent and colleagues established that self-efficacy beliefs, outcome expectations, and contextual support serve as important variables in career development models [9], the mechanisms by which cognitive factors such as career anxiety and technical competence interact to enhance or diminish self-efficacy have not been systematically modeled in recent empirical investigations [8]. This theoretical gap limits academics' ability to develop comprehensive, evidence-based interventions that address the multidimensional nature of career preparation in digitally intensive professional environments.

Research Objectives, Urgency, and Novelty

This study examines the relationships between career anxiety, digital competence, and self-efficacy among final-year university students in Bandar Lampung, Indonesia, using a correlational research design with a sample of 100 participants. The primary objectives are to identify the strength and direction of the relationships among these three psychological constructs, to evaluate the combined predictive capacity of digital competence and career anxiety in explaining variance in self-efficacy through a simultaneous multiple regression analysis, and to determine whether digital competence is a stronger predictor of self-efficacy than career anxiety. This research is urgently needed because contemporary higher education institutions lack empirically validated evidence on effective psychological interventions for students experiencing concurrent career-related difficulties and digital skill deficits, thereby limiting the development of targeted support services grounded in rigorous research [6], [10], [14]. The novelty of this study lies in the simultaneous examination of career anxiety and digital competence as joint predictors of self-efficacy in an underrepresented geographic context; its application of correlational methodology to elucidate complex psychological

interactions relevant to career transitions; and its theoretical integration of Social Cognitive Career Theory with contemporary digital competency assessment frameworks, including DigComp 3.0 [12]. By establishing empirical evidence on how digital competency and career anxiety interact to shape self-efficacy beliefs among final-year university students, this study provides crucial information for designing psychologically informed digital literacy interventions that address not only technical skill acquisition but also affective dimensions and self-regulatory processes that are crucial for sustained career exploration and occupational commitment in a digitally mediated labor market.

2. METHOD

Types and Design of Research

Research Approach and Design

This study employed a quantitative, correlational research methodology to examine the relationships among career anxiety, digital competence, and self-efficacy among final-year university students [15]. A quantitative approach was chosen to obtain objective, numerically measurable data suitable for statistical analysis of the hypothesized relationships between these three psychological constructs [16], [17]. Quantitative methodology facilitates standardized measurement of psychological variables while minimizing researcher bias and allowing for generalization of findings across a broader population, thereby building empirical evidence regarding the strength and direction of relationships between variables [18], [19]. A correlational research design was deemed most appropriate because it aimed to examine naturally occurring relationships between variables without experimental manipulation of conditions or participant assignment to treatment groups. According to established research design frameworks, correlational designs are well-suited for educational and psychological research in which variables emerge spontaneously in authentic contexts, such as university settings, allowing researchers to evaluate complex psychological interactions as they occur without artificial intervention.

Furthermore, a correlational approach offers substantial flexibility for mapping multidimensional psychological constructs when variables may exert bidirectional influences, as exemplified in this study, where career anxiety and digital competence may interact to shape self-efficacy beliefs. This design allows simultaneous examination of both univariate relationships via Pearson correlations and multivariate associations via multiple regression, yielding a comprehensive empirical understanding of the contributions of individual variables and their combined predictive capacity. The correlational framework is also valuable for generating preliminary evidence that can inform subsequent experimental or intervention-based investigations, thus establishing a methodological foundation for the development of evidence-based programs in higher education institutions.

Population, Sampling Strategy, and Participant Characteristics

The study population consisted of final-year students enrolled in various disciplines at institutions in Bandar Lampung, Indonesia. Participant selection employed purposive sampling, a non-random sampling technique in which researchers intentionally select participants based on predetermined criteria aligned with the research objectives [20], [21],

[22]. This sampling approach was chosen specifically because it ensures the inclusion of participants with characteristics essential to answering the research questions, thereby maximizing the relevance and quality of the data collected compared to a random sampling approach. Operational inclusion criteria for participant selection were as follows: currently enrolled as an active student in their final semester, actively involved in completing mandatory thesis or final project requirements, providing voluntary consent to participate in the data collection procedure, and willing to complete a psychological assessment instrument. Exclusion criteria included students who did not complete their final project, those with severe mental health conditions requiring clinical intervention, and individuals unable to access the online data collection platform. A total of 100 final-year students were recruited through purposive sampling. This sample size was chosen to provide adequate statistical power for correlational analysis and multiple regression, while remaining practical within institutional constraints. The sample consisted of approximately 87% female and 13% male participants, totaling 100 final-year students. Based on year of enrollment, the majority of respondents were from the class of 2022 (86%), followed by the classes of 2021 (10%), 2020 (3%), and 2019 (1%), reflecting that most participants were in the transition phase into the workforce. Based on semester, the majority of respondents were in semester 7 (85%), followed by semester 9 (10%), semester 11 (3%), and semesters 8 and 13 (1% each). The representation of educational institutions includes various universities in Bandar Lampung, with the majority of respondents (71%) from UIN, followed by UNILA (16%). In contrast, the rest came from ITERA, Polinela, Poltekkes, Malahayati University, UBL, Teknokrat University, Open University, and STKIP, with percentages of around 1–2% each, reflecting the diversity of institutional backgrounds of final-year students in the region.

Measurement Instruments and Operationalization of Variables

Three psychological instruments were used in this study to operationalize and measure three main variables: self-efficacy, career anxiety, and digital competence. Self-efficacy was measured using the Indonesian version of the General Self-Efficacy Scale (GSES), adapted by Muti'ah (2020) from Schwarzer and Jerusalem (1995). This scale is based on the concept of self-efficacy proposed by [23], which encompasses three main aspects: magnitude (the level of difficulty of a task that can be faced), strength (the strength of an individual's beliefs), and generality (the generalization of beliefs across situations). This scale consists of 10 items, each presented as a positive or negative statement. Career anxiety was measured using a scale developed based on Freud's Theory and developed by, who views anxiety as a multidimensional construct. This scale encompasses four main aspects: cognitive, emotional, physiological, and behavioral, which describe an individual's response when thinking about or facing situations related to their future career. The career anxiety scale consists of 18 statement items, which are designed to describe negative thoughts about career, feelings of anxiety, bodily responses, and avoidance or procrastination behaviors related to career choices.

The digital competency variable was measured using a scale developed based on the digital competency framework by Munstashir and Tricahyono (2021). This scale covers four aspects: access (the ability to search for and access digital information), usage (the ability to

use digital devices and applications for learning and work), communication (the ability to communicate and collaborate through digital media), and digital content creation (the ability to create ethical and informative digital content). The digital competency scale also consists of 17 items structured as favorable and unfavorable. All three scales in this study used a four-point Likert response format: Strongly Agree (S), Agree (S), Disagree (DS), and Strongly Disagree (STS). Scores ranged from 1 to 4, with favorable items scored 4–1 and unfavorable items scored 1–4. This format was chosen to allow respondents to provide clear answers according to their level of agreement with the statements. Prior to use in the main study, all instruments were pre-tested through a trial run conducted from October 30 to November 2, 2025, among final-year students in Bandar Lampung. This trial aimed to evaluate item quality, including scale validity and reliability. The trial data were analyzed using SPSS version 26 to assess item discrimination and the instrument's internal consistency.

The reliability test results indicate that all three instruments have a high level of internal consistency and are suitable for research. The self-efficacy scale had a reliability coefficient of $\alpha = 0.79$, the career anxiety scale had $\alpha = 0.82$, and the digital competence scale had $\alpha = 0.84$. These values indicate that all scales meet acceptable reliability criteria in psychological and educational research, allowing them to be used to measure research variables consistently. Thus, the three instruments used in this study have met the requirements of validity and reliability, enabling the data obtained from respondents to be scientifically accounted for and used as a basis for analyzing the relationship between career anxiety, digital competence, and student self-efficacy in the era of automation and artificial intelligence.

Data Collection and Quality Assurance Procedures

Data collection in this study was conducted directly (offline) by distributing questionnaires to respondents face-to-face. The data collection process was carried out on November 3-24, 2026, by administering three research instruments: a self-efficacy scale, a career anxiety scale, and a digital competency scale to final-year students in the Bandar Lampung area who had met the criteria as research respondents. The offline data collection method was chosen to ensure that the respondents' characteristics matched the research criteria: final-year students in the preparation phase for the world of work. In addition, direct distribution of questionnaires enabled the researcher to provide explanations when respondents did not understand items, thereby minimizing filling errors and improving the quality and completeness of the data obtained. After the questionnaires were distributed and completed by respondents, the researcher collected all answer sheets for scoring in accordance with the blueprint guidelines for each scale. The scores were then processed and analyzed using SPSS version 26 to test the research hypothesis regarding the relationship among career anxiety, digital competency, and student self-efficacy in the era of automation and artificial intelligence.

Before completing the survey, all participants received detailed information about the study's purpose, data protection protocols, confidentiality assurances, and their rights to voluntary participation. The complete survey instrument took approximately 12 to 15

minutes to complete. Data collection took place over four weeks during the institution's spring semester final exam period, ensuring the availability of final-year students. After submission, all responses were automatically compiled into a secure database with timestamp verification and the preservation of respondent anonymity through the removal of identifying information. After all questionnaires were collected, the researcher conducted an initial check of the completeness of the respondents' responses. This check aimed to ensure that each questionnaire was completed completely and in accordance with the provided instructions. Answer sheets that were incomplete or showed discrepancies were excluded from data processing. Next, all data declared complete were scored according to the scoring guidelines for each scale: the self-efficacy scale, the career anxiety scale, and the digital competence scale. The scored data were then entered into SPSS version 26 for further analysis in accordance with the research objectives. This study also addressed ethical aspects of research by providing respondents with an explanation of the study's general purpose before they completed the questionnaire. Respondents were given the freedom to participate voluntarily and were guaranteed confidentiality. All data collected was used solely for academic purposes and the development of scientific knowledge. [24], [25].

Statistical Analysis and Hypothesis Testing Procedures

Data analysis in this study was conducted using the Statistical Package for the Social Sciences (SPSS) version 26. The use of SPSS in quantitative research aims to assist researchers in systematic, accurate data processing, particularly in testing relationships and influences among variables [26]. The data analyzed were the scores from three research instruments: the self-efficacy scale, the career anxiety scale, and the digital competence scale.

The initial analysis stage used descriptive statistics to provide an overview of the data characteristics for each research variable. The descriptive statistics calculated included the mean, standard deviation, and minimum and maximum values. These statistics were used to describe the levels of career anxiety, digital competence, and self-efficacy of the final-year students who participated in the study [27]. After the descriptive analysis, the next stage was hypothesis testing using Pearson's Product-Moment correlation. This analysis was used to determine the relationships between career anxiety and self-efficacy and between digital competence and self-efficacy. Pearson correlation was used because all three variables are interval-scaled and aims to determine the direction and strength of the linear relationship between the variables. The significance level in this study was set at $\alpha = 0.05$. Next, to determine the simultaneous effects of career anxiety and digital competence on self-efficacy, a multiple linear regression analysis was conducted. In this regression model, self-efficacy was placed as the dependent variable, while career anxiety and digital competence were the independent variables. Regression analysis is used to see the ability of independent variables to predict dependent variables [28].

The feasibility of the regression model was evaluated using the R Square (R^2) value, which indicates the proportion of self-efficacy variance explained by career anxiety and digital competence simultaneously. In addition, the model's significance was tested using an F test, which assesses whether the two independent variables together have a significant

effect on self-efficacy. The analysis indicates that career anxiety and digital competence simultaneously have a significant effect on the self-efficacy of final-year students. In addition, the standardized beta coefficient indicates that digital competence makes a stronger contribution than career anxiety in predicting self-efficacy. This finding is in line with the Social Cognitive Career Theory approach, which emphasizes the role of personal abilities and psychological factors in the formation of individual self-confidence [9]. Thus, the statistical analysis in this study has been carried out systematically and in accordance with the research objective, namely to examine the relationship and Influence of career anxiety and digital competence on the self-efficacy of final year students in the era of automation and artificial intelligence.

3. RESULTS AND DISCUSSION

3.1 . Results

Descriptive Statistics of Research Variables

Descriptive statistics were used to provide a general overview of each research variable before conducting inferential analysis. These statistics included the minimum, maximum, mean, and standard deviation values for each variable: career anxiety, digital competence, and self-efficacy. This information is essential for observing trends in the data and ensuring that all variables have a distribution that can be further explained.

Table 1. Descriptive Statistics

	N	Minimum	Maximum	Means	Standard Deviation
Career Anxiety	100	20	72	54.31	21,503
Digital Competence	100	35	68	56.14	8,984
Self-Efficacy	100	23	40	35.88	4,179
Valid N values (based on list)	100				

Descriptive statistics show that students in this study had a relatively high level of career anxiety, with an average score of 54.31. Meanwhile, digital competence was in the moderate category, with an average score of 56.14. On the other hand, students' self-efficacy was relatively high, with an average score of 35.88. This figure indicates that although many students felt anxious about their future careers, most still had strong confidence in their abilities to face the demands of the working world.

The Relationship between Career Anxiety and Self-Efficacy

The following analysis focused on measuring the relationship between career anxiety and self-efficacy using a Pearson correlation test. This test aims to determine whether there is a significant linear relationship between the two variables, both in terms of direction and strength of association. This analysis presents a comprehensive overview of the correlation coefficient, the significance value, and the initial significance for testing the research hypotheses.

Table 2. Correlation

		Career Anxiety	Self-Efficacy
Career Anxiety	Pearson Correlation	1	-.223*
	Sig. (2 tails)		.026
	N	100	100
Self-Efficacy	Pearson Correlation	-.223*	1
	Sig. (2 tails)	.026	
	N	100	100

**. Significant correlation at the 0.05 level (2-tailed).

Correlation analysis showed that career anxiety had a significant negative relationship with self-efficacy ($r = -0.223$, $p = 0.026$). This means that the higher the level of career anxiety experienced by students, the lower their level of self-efficacy. This suggests that feelings of anxiety about their future careers can weaken students' confidence in their abilities to face academic and professional challenges.

The Relationship Between Digital Competence and Self-Efficacy

The next analysis focused on the relationship between digital competence and self-efficacy. A Pearson correlation test was conducted to determine whether there was a significant linear relationship between students' mastery of digital skills and their self-efficacy beliefs. The results are presented in the following table, which provides an overview of the correlation coefficients and significance values needed to test the two research hypotheses.

Table 3. Correlation

		Career Anxiety	Self-Efficacy
Career Anxiety	Pearson Correlation	1	. 633**
	Sig. (2 tails)		0,000
	N	100	100
Self-Efficacy	Pearson Correlation	.633**	1
	Sig. (2 tails)	0,000	
	N	100	100

**. Significant correlation at the 0.01 level (2-tailed).

Correlation analysis shows that digital competence has a positive and significant relationship with self-efficacy ($r = 0.633$, $p = 0.000$). This means that the higher a student's digital competence, the higher their self-efficacy. This indicates that the ability to use digital technology plays a significant role in increasing students' confidence in their ability to meet academic and professional demands.

Regression Analysis: Model Summary

A linear multiple regression test was conducted to assess the simultaneous contribution of career anxiety and digital competence to students' self-efficacy. This section describes the quality of the regression model, as indicated by the R and R^2 values. These values are presented to illustrate the strength of the collective relationship between the variables and the proportion of self-efficacy variance explained by the two predictors.

Table 4. Summary of Model b

Model	R	R Square	Adjusted R Squared	Standard Error of Estimate
1	.666a	0.444	.433	3,147

A. Predictors: (Constant), Digital Competence, Career Anxiety
b. Dependent Variable: Self-Efficacy

Regression analysis shows that career anxiety and digital competence simultaneously have a strong contribution to self-efficacy, as seen from the R value = 0.666 and $R^2 = 0.444$. This means that 44.4% of the variation in self-efficacy can be explained by these two variables. This model is also declared stable with an Adjusted R^2 value of 0.433, indicating that after adjusting for the number of predictors, the model is still able to explain a proportion of the variance in self-efficacy consistently.

Regression Model Significance Test (ANOVA)

To test the overall feasibility of the regression model, an ANOVA test was conducted to assess whether career anxiety and digital competence simultaneously significantly Influence self-efficacy. This test focused on the F-value and the model's significance level. The ANOVA results will serve as the basis for assessing whether the constructed regression model meets the statistical feasibility criteria.

Table 5. ANOVA

Model		Sum of Squares	df	Mean Square	F	Signature.
1	Regression	767,864	2	383,932	38,765	.000b
	Remainder	960,696	97	9,904		
	Total	1728,560	99			

a. Dependent Variable: Self-Efficacy
B. Predictors: (Constant), Digital Competence, Career Anxiety

The ANOVA test yielded an F value of 38.765 with a significance level of p = 0.000, indicating that the regression model used was feasible and significant. In other words, career anxiety and digital competence simultaneously significantly influenced student self-efficacy.

Partial Regression Test (T-Test)

As a follow-up to the ANOVA test results, which showed that the regression model was significant overall, the analysis then focused on examining the Influence of each independent variable on the dependent variable. Presenting the results of a partial regression test (t-test), which was used to assess whether career anxiety and digital competence had a significant Influence on students' self-efficacy when tested individually. Using regression coefficient parameters, t-values, and significance levels, this test provides information on which variables are the most dominant predictors of students' self-efficacy.

Table 6. Coefficient a

Model		Unstandardized Coefficients		Standardized Coefficient			Collinearity Statistics	
		B	Standard Error	Beta	T	Signature.	Tolerance	VIF
1	(Constant)	21,674	2,172		9,978	.000		
	Career Anxiety	-.041	.015	-.209	-2,754	.007	.999	1,001
	Digital Competence	.292	.035	.628	8,298	.000	.999	1,001

a. Dependent Variable: Self-Efficacy

Partially, both variables were also shown to have a significant effect on self-efficacy. Career anxiety had a regression coefficient B = −0.041 with a t value = −2.754 and p = 0.007, indicating that career anxiety had a negative and significant effect on self-efficacy. This means that the higher the career anxiety felt by students, the lower their level of self-efficacy. Meanwhile, digital competence had a stronger Influence with a regression coefficient B = 0.292, a t value = 8.298, and p = 0.000. This indicates that digital competence has a positive and significant effect on self-efficacy. Thus, digital skills play a greater role in increasing students' confidence in their abilities than career anxiety.

3.2. Discussion

The Relationship between Career Anxiety and Self-Efficacy

The results of the Pearson correlation test in this study indicate that career anxiety has a negative and significant relationship with student self-efficacy (r = −0.223; p = 0.026). This negative correlation indicates that the higher the students' career anxiety, the lower their confidence in their ability to meet academic demands and prepare for the world of work. Conversely, students with lower levels of career anxiety tend to show higher self-efficacy. This finding can be explained through the framework of Bandura's Social Cognitive Theory, which states that self-efficacy is influenced by how individuals interpret their experiences, emotions, and psychological stress. Excessive anxiety can lead to cognitive distortions, such as doubts about one's abilities, fear of failure, and negative assessments of one's future career. This unstable emotional state ultimately weakens an individual's belief in their own capacity [23].

Among final-year students, career anxiety often arises from uncertainty about job opportunities, competency demands, and workplace competition. When this anxiety is high and poorly managed, students tend to feel incompetent, hesitate in making decisions, and avoid challenges. This has a direct impact on decreased self-efficacy, as individuals focus more on potential failure than on opportunities for success. The findings of this study align with previous research showing that career anxiety is negatively related to student self-confidence. Research by [29] found that students with high career anxiety tend to have lower self-efficacy because they feel unprepared, both competently and emotionally. Research by [30] also shows that anxiety that is not managed adaptively can hinder students' motivation, initiative, and courage in facing career challenges.

Furthermore, according to Lazarus and Folkman, individuals who perceive situations as threatening and beyond their control are more likely to use emotional or avoidant coping, rather than problem-focused coping. This unproductive coping strategy prevents students from gaining mastery experience, even though successful experiences are a key source of self-efficacy. Consequently, the higher the career anxiety, the lower the likelihood that students will develop strong self-confidence.

Thus, the negative relationship between career anxiety and self-efficacy in this study ($r = -0.223$) illustrates that career anxiety functions more as a psychological inhibitor than a driver when not managed adaptively. Anxiety that is not balanced with support, planning, and competency development actually weakens students' self-confidence as they face the competitive world of work. Therefore, this finding emphasizes the importance of educational institutions' efforts to help students manage career anxiety healthily, for example, through career counseling services, job-readiness training, and self-competency development. With proper management, students can not only reduce their career anxiety but also increase their self-efficacy, an important psychological capital for entering the professional world.

The Influence of Digital Competence on Self-Efficacy

Digital competence was found to be the strongest variable influencing student self-efficacy ($\beta = 0.628$; $B = 0.292$; $t = 8.298$; $p = 0.000$). This finding indicates that students' ability to master digital technology is not only important in the learning process but also a major source of self-confidence. A significance value of $p = 0.000$ indicates that the Influence of digital competence on self-efficacy is very strong and does not occur by chance. In the current context of higher education, almost all academic activities require digital skills, such as using e-learning platforms, processing data, preparing scientific reports, accessing electronic journals, and creating technology-based presentations. Students with strong digital competence will feel freer, more independent, and more confident in using this technology. This is reflected in the regression coefficient $B = 0.292$, indicating that every increase in digital competence is associated with an increase in student self-efficacy.

Digital competence also makes students more adaptable to changes in learning systems and the demands of the workplace. Students who are accustomed to using technology adapt more quickly to new systems, such as learning applications, online collaboration platforms, and academic software. This adaptability increases students' sense of competence because they feel they can overcome technical obstacles and technology-based academic challenges. This finding aligns with previous research showing that digital literacy and competence are crucial for building student self-confidence. Research by [31] found that students with high digital competence are better prepared for the modern workplace because they feel capable of meeting its demands. [32] also reported that students with strong digital literacy tend to be more confident in completing technology-based academic assignments. Research by [33] confirms that digital skills contribute to increased self-efficacy, as students feel more skilled and less anxious when engaging in lecture activities that require technology.

Furthermore, the multicollinearity test results indicate that the digital competency variable is highly stable, with a Tolerance value of 0.999 and a VIF of 1.001, indicating no

excessive linear relationship with other variables in the model. This confirms that the contribution of digital competency to self-efficacy is truly independent and unaffected by statistical distortion. Therefore, digital competency is no longer merely an additional skill but has become a fundamental requirement in students' learning and career preparation. The ability to use technology effectively fosters greater self-confidence, preparing students better to face academic challenges and the increasingly competitive, technology-based workplace.

The Simultaneous Effect of Career Anxiety and Digital Competence on Self-Efficacy

The results showed that career anxiety and digital competence simultaneously significantly influenced student self-efficacy ($F = 38.765$; $p = 0.000$). This finding suggests that student self-efficacy is formed through the interaction between psychological factors and technical skills. Career anxiety is related to internal drives arising from future uncertainty, while digital competence provides concrete abilities to face the demands of technology-based academics and the workplace.

When these two variables work together, students have greater self-confidence in engaging in academic activities and in the career preparation process. Students who feel anxious about their future careers tend to be motivated to prepare, but these efforts will be more effective if supported by adequate digital competencies. For example, anxiety drives students to seek information about job or internship opportunities, while digital competencies make it easier for them to compile CVs and portfolios and to access various online job search platforms. The strength of this simultaneous Influence is also reflected in the R value of 0.666, indicating a strong collective relationship between the two predictor variables and self-efficacy.

The R^2 value of 0.444 indicates that 44.4% of the variation in student self-efficacy is explained by career anxiety and digital competence together, with the remaining variation influenced by factors outside the research model. Furthermore, the Adjusted R^2 value of 0.433 indicates that the regression model remains stable after adjusting for the number of predictors, so that this result can be trusted as a depiction of the strength of the simultaneous relationship between variables.

These findings align with previous research that emphasized the importance of the interaction between psychological factors and practical skills in shaping student self-confidence. [34] found that a combination of mental preparedness and skills relevant to environmental demands influences self-efficacy. [35] also reported that digital competence makes students more confident in participating in technology-based lectures. Furthermore, [36, p. 20] explained that digital literacy and career readiness develop simultaneously and are important predictors of self-efficacy.

Thus, the findings of this study reinforce the understanding that student self-efficacy is not determined by a single factor, but rather by a combination of career anxiety, a psychological driver, and digital competence, a practical skill. When these two aspects develop in balance, students will be better prepared, more confident, and more adaptable to the demands of both academics and the increasingly competitive, technology-driven workplace.

Synthesis of the Overall Discussion

The results of this study indicate that students' self-efficacy is formed through a combination of their psychological state and their technical abilities. In general, students had a relatively high level of career anxiety (mean = 54.31), had moderate digital competence (mean = 56.14), and had relatively high self-efficacy (mean = 35.88). This figure indicates that although many students felt anxious about their future careers, they still had fairly good confidence in their abilities. When the relationship between variables was analyzed, it was seen that career anxiety had a negative and significant relationship with self-efficacy ($r = -0.223$; $p = 0.026$). This indicates that the higher the students' career anxiety, the lower their confidence in their abilities. In other words, career anxiety in this study functioned more as a psychological inhibitory factor than an adaptive driver in the formation of self-efficacy.

On the other hand, digital competence has a positive and significant relationship with self-efficacy ($r = 0.633$; $p = 0.000$), indicating that technological mastery is one of the main sources that makes students feel capable of facing the increasingly digital-based academic and work world demands. Students who are skilled with technology tend to be more confident, independent, and adaptable in completing coursework. When both variables were tested simultaneously in a regression analysis, the results showed that career anxiety and digital competence had a significant effect on self-efficacy ($F = 38.765$; $p = 0.000$), with $R = 0.666$ and $R^2 = 0.444$. This means that approximately 44.4% of the variation in student self-efficacy can be explained by career anxiety and digital competence together, while factors outside the research model Influence the remaining variation. However, in the partial test, digital competence appears to be the most dominant factor influencing self-efficacy ($B = 0.292$; $t = 8.298$; $p = 0.000$), while career anxiety makes a smaller but still significant negative contribution ($B = -0.041$; $t = -2.754$; $p = 0.007$). This finding indicates that students' self-confidence in completing academic tasks and preparing for the world of work is largely shaped by their ability to master technology, though psychological factors, such as career anxiety, still Influence it. Thus, the overall synthesis of this study's results confirms that student self-efficacy results from the interaction between psychological motivation and practical competence. Digital competence plays a major role in forming a sense of capability, while career anxiety, if not managed properly, can weaken students' self-confidence. Therefore, strengthening digital competencies needs to be accompanied by efforts to manage career anxiety, so that students can develop optimally amid increasingly competitive academic and work demands.

4. CONCLUSION

This study revealed that career anxiety and digital competence together significantly contribute to the self-efficacy of final-year students. The analysis results showed that career anxiety has a negative and significant relationship with self-efficacy ($r = -0.223$; $p = 0.026$), meaning that the higher the career anxiety felt by students, the lower their confidence in their abilities. This finding indicates that career anxiety in the context of this study functions more as a psychological inhibiting factor in the formation of self-efficacy. Conversely, digital competence shows a strong, positive relationship with self-efficacy ($r = 0.633$; $p = 0.000$), confirming that mastery of digital skills is one of the main sources of student self-confidence.

Students with strong digital competence tend to be more confident in meeting academic demands and preparing for the technology-based world of work.

Multiple linear regression analysis confirmed that career anxiety and digital competence simultaneously predicted student self-efficacy ($F = 38.765$; $p = 0.000$), with an R^2 value of 0.444. This means that approximately 44.4% of the variation in self-efficacy can be explained by these two variables together. In a partial test, digital competence emerged as the most dominant predictor ($\beta = 0.628$; $p = 0.000$), while career anxiety also had a significant but negative effect ($\beta = -0.209$; $p = 0.007$). This indicates that student self-confidence is shaped more by the technical skills they have mastered, though it is still influenced by psychological factors that accompany the career-preparation process. This finding strengthens the Social Cognitive Theory of Career, which emphasizes that self-efficacy develops through the interaction between personal factors (emotions, beliefs, anxiety) and concrete ability factors (individual competencies). In the context of technology-based higher Education, mastery of digital skills is a key asset in building students' sense of competence.

Several limitations of this study should be acknowledged, including the cross-sectional design, which limits causal inferences; the single-area sampling, which limits generalizability; and the use of self-report instruments, which may introduce response bias. In practice, the results of this study suggest that universities need to develop integrated interventions that not only improve students' digital competencies but also help them manage career anxiety adaptively through counseling services, job-readiness training, and soft skills strengthening. Future research is recommended to use a longitudinal design to examine changes in self-efficacy over time, incorporate other variables such as social support, internship experience, and career goal clarity, and expand the research context to various educational institutions. Thus, this study provides an evidence-based basis that student career preparation in the digital age requires an approach that integrates the development of technical skills and psychological resilience in a balanced manner.

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