

Research Article

Determinants of Perceived Employability Among Vocational College Graduates in Southern China

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Abstract

This paper examines the factors of perceived employability of 623 final-year students of vocational colleges in four provinces of Southern China. A modified scale of perceived employability was used, and the scale included the concepts of self-efficacy, career identity, institutional support, and social capital. The overall means of the scale of perceived employability were moderate ($M = 3.31$). The students rated themselves against the recognition of the institution in the labor market. The hierarchical regression results showed that a combination of individual, institutional, and environmental factors explained 35.8% of the variance of perceived employability. Self-efficacy was the strongest predictor of perceived employability ($\beta = .27$), followed by institutional support ($\beta = .20$), career identity ($\beta = .15$), social capital ($\beta = .14$), and internship experience ($\beta = .11$). There were significant differences among the provinces; Guangdong outperformed the less economically advanced provinces.

Keywords

perceived employability, vocational education, self-efficacy, Southern China, hierarchical regression

1. Introduction

1.1. Research Background and Problem Statement

The development of the vocational education system in China over the past decade has been remarkable. By the end of 2024, the country had built 1,613 higher vocational education institutions with over 18 million students and an average annual output of 5.47 million graduates. However, the graduates from the vocational education sector seem to be at a relative disadvantage in the job market. The empirical data show that the graduates from the

vocational education sector receive significantly lower salaries than those from the academic sector, even if individual differences are taken into account (G. Wang & Wang, 2023). The wage gap and the estimated youth unemployment rate of 13-19% in 2024-2025 using revised statistical methods are causing serious concerns over the competitiveness of the graduates from the vocational education sector.

In this respect, Southern China is an important case study. The gross domestic product of Guangdong Province, in which there are as many as 96 higher vocational schools, is ¥14.16 trillion in 2024. Advanced manufacturing is 57.1 percent of the industrial output. The Guangdong-Hong Kong-Macao Greater Bay Area is an important place for the integration of skilled vocational talents. However, the shortage of 30 million skilled workers in the core manufacturing industry indicates that the labor supply and labor demand may have a disconnection. Although the premier vocational schools in the region have placement rates of more than 95 percent, differences in the self-assessment of the employability of graduates exist.

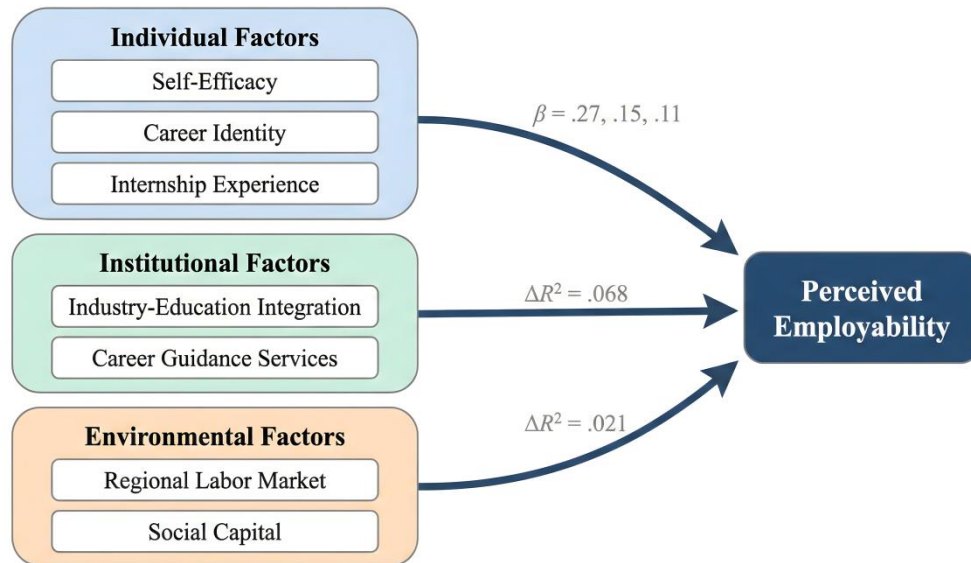
Perceived employability, which is defined as “the individual’s subjective perception of the likelihood of gaining and maintaining employment,” has been recognized as a potentially useful avenue to uncover individual differences in employability. Previous studies have demonstrated that perceived employability is positively linked to academic engagement and negatively linked to psychological stress among Chinese higher education students, making it a promising variable as both an outcome variable and a predictor variable (Ma & Bennett, 2021). However, most studies have examined undergraduates from general universities, whereas there is a lack of study among vocational college graduates in dynamic southern areas.

1.2. Research Objectives and Research Questions

This study is designed to explore the major factors that influence the perceived employability of vocational college graduates from the perspectives of individual factors (self-efficacy, career identity, internship experience), institutional factors (industry-education integration, career guidance), and environmental factors (regional labor market environments, social capital). According to **Figure 1** above, the three kinds of factors are hypothesized to jointly influence the perceived employability of the graduates; meanwhile, the individual factors are considered as the proximal predictors of the perceived employability.

Figure 1

Conceptual Framework of Determinants of Perceived Employability



Note. Arrows represent hypothesized directional relationships tested via hierarchical multiple regression.

The conceptual framework is guided by a multi-determinant model, which indicates human capital, social capital, and career-related behaviors as antecedents of perceived employability in the graduate labor market in China (Ma, Chen, & Guidance, 2024).

1.3. Research Significance

From a theoretical perspective, this study aims to enrich the scope of perceived employability theory within the context of vocational education in Southern China, a context which remains underrepresented within the literature. Previous research has revealed various aspects of employability, such as career planning and professional skills, among Chinese university graduates (Jiang, Chen, & Lei, 2023). However, similar studies conducted among Chinese vocational education groups have not been sufficiently explored. From a practical perspective, identifying the key factors which influence the perceived employability of people in vocational education groups could be beneficial for the development of curriculum design in vocational education institutions in Southern China.

2. Research Design and Methodology

2.1. Participants and Sampling

The study employed a cross-sectional survey study design. The target population consisted of final-year students in different higher vocational colleges in Southern China, including the Guangdong Province, Guangxi Province, Fujian Province, and Hainan Province. Stratified random sampling was employed in this study to ensure the representation of different geographical areas and disciplines. First, two to three vocational colleges were randomly selected from the above-mentioned four provinces, making ten colleges in total.

Then, three disciplines were randomly selected: engineering and manufacturing disciplines, business and service disciplines, and health and agriculture disciplines.

The target sample size was determined as 600 participants using an a priori power analysis for multiple regression with the following parameters: a medium effect size ($f^2 = 0.15$), desired power of 0.80, and up to 15 predictor variables. To reduce the effects of non-response bias and incomplete data, 750 questionnaires were distributed. The sampling criteria were the final-year students who had completed or were undertaking a supervised internship because it would represent one of the key independent variables.

2.2. Instruments

The survey tool had six sections. The perceived employability was assessed using a 16-item scale developed by Rothwell, Herbert, and Rothwell (2008), which included the internal and external aspects of employability. The items were all rated on a five-point Likert scale, with a range from 1 (strongly disagree) to 5 (strongly agree). The scale was translated and assessed for linguistic clarity using a pilot study of 50 vocational students in Guangzhou.

Self-efficacy was measured by the General Self-Efficacy Scale, consisting of 10 items based on the work of Schwarzer & Jerusalem (1995). The scale is highly validated with Chinese participants. Career identity was measured by a 12-item professional identity scale, an extension of previous Chinese vocational education surveys. Institutional support was measured by a 10-item scale focusing on curriculum, internship, and career guidance satisfaction. Social capital was measured by a 6-item scale assessing the strength and diversity of employment-related social networks.

Demographic information that was collected consisted of gender, age, home province, disciplinary category, location of family residence (urban/rural), and whether the internship had been completed.

2.3. Data Collection and Analysis

Data collection took place from March to May 2025. The questionnaires were delivered online via the Wenjuanxing tool and in hard copy during on-site class sessions.

Data screening consisted of excluding cases with large missing value proportions (>10%) or detectable careless response patterns. Confirmatory factor analysis was used to validate the structural validity of each scale. The internal reliability of the scales was assessed by calculating the Cronbach's alpha coefficients. Independent samples t-tests and one-way ANOVA were used to investigate the differences in the variables of gender, province, discipline, and internship experience. The correlations of all the variables were calculated by correlation analysis. The procedure used for the analysis is primarily based on the hierarchical

multiple regression analysis. The demographic factors were entered in the first step, the individual factors in the second step, the institutional factors in the third step, and the environmental factors in the fourth step. The stepwise procedure enables the computation of the increment R-squared at each step, as conceptualized in the discussion in Chapter 1.

3. Results

3.1. Sample Characteristics and Scale Reliability

A total of 750 questionnaires were distributed in ten vocational colleges in four provinces of the southern region. Among them, 641 were returned, and 623 were valid after excluding those with excessive missing data or patterned response, achieving an effective response rate of 83.1%. As indicated in **Table 1**, female respondents make up 56.2%, while male respondents make up 43.8%, which reflects the composition of vocational colleges in the region. The number of participants from Guangdong Province was the highest at 34.0%, followed by Fujian at 24.9%, Guangxi at 22.8%, and then Hainan at 18.3%. As to discipline, business and services accounted for 38.8%, while engineering and manufacturing accounted for 35.3%. Besides, health and agriculture accounted for 25.9%. As to whether the respondents had completed an internship off-campus, 71.6% had completed an internship off-campus, while 28.4% hadn't completed an internship off-campus at the time of survey. As to family background, 57.3% had a rural household registration.

Table 1

Demographic Characteristics of Participants (N = 623)

Variable	Category	n	%
Gender	Male	273	43.8
	Female	350	56.2
Province	Guangdong	212	34.0
	Fujian	155	24.9
	Guangxi	142	22.8
	Hainan	114	18.3
Discipline	Engineering & Manufacturing	220	35.3
	Business & Services	242	38.8
	Health & Agriculture	161	25.9
Internship completed	Yes	446	71.6

	No	177	28.4
Family location	Urban	266	42.7
	Rural	357	57.3

All five scales showed good internal consistency. The Cronbach's alpha reliabilities were 0.87 for perceived employability, 0.89 for self-efficacy, 0.84 for career identity, 0.86 for institutional support, and 0.81 for social capital. Confirmatory factor analysis was carried out to establish the structural validity of the scales. All five scales showed good model fit. For perceived employability, $\chi^2/df = 2.36$, CFI = 0.93, TLI = 0.91, RMSEA = 0.047. The mean score was 3.31 (SD = 0.64) on the 5-point scale for perceived employability. This indicates a moderate level of perceived employability among the vocational sample.

3.2. Group Differences and Correlation Analysis

Independent samples t-tests and one-way ANOVA were conducted to examine the differences between the groups for perceived employability. As shown in **Table 2**, no statistically significant gender difference was found ($t = 1.42$, $p = .156$). The factor of province of enrollment had a significant effect ($F = 4.87$, $p = .002$). The post hoc Bonferroni test revealed significant differences between Guangdong Province ($M = 3.45$) and Guangxi Province ($M = 3.18$, $p = .004$) and Hainan Province ($M = 3.14$, $p = .001$). The difference between Guangdong Province and Fujian Province ($M = 3.33$) did not approach statistical significance. The discipline was found to be a significant factor ($F = 3.62$, $p = 0.027$), as engineering/manufacturing discipline students rated their employability slightly higher than health and agriculture discipline students. Intern experience was found to be significant ($t = 3.78$, $p < 0.001$, Cohen's $d = 0.34$), as interns rated their employability significantly higher than non-interns.

Table 2

Independent Samples t-test and ANOVA Results for Perceived Employability

Variable	Group	M	SD	t / F	p
Gender	Male	3.35	0.63	1.42	.156
	Female	3.28	0.65		
Province	Guangdong	3.45	0.61	4.87	.002
	Fujian	3.33	0.62		
	Guangxi	3.18	0.66		
	Hainan	3.14	0.68		

Discipline	Engineering & Manuf.	3.39	0.62	3.62	.027
	Business & Services	3.30	0.64		
	Health & Agriculture	3.21	0.67		
Internship	Completed	3.38	0.61	3.78	<.001
	Not completed	3.16	0.68		

The results of the Pearson correlation analysis indicated that all the predictor variables were positively and significantly correlated with perceived employability, as presented in **Table 3**. Of all the predictor variables, self-efficacy was the most correlated with perceived employability ($r = .46$, $p < .001$), followed by institutional support ($r = .39$, $p < .001$), career identity ($r = .36$, $p < .001$), and social capital ($r = .28$, $p < .001$). The correlation between predictor variables ranged from .19 to .41.

Table 3

Pearson Correlation Matrix Among Variables

Variable	1	2	3	4	5
1. Perceived employability	—				
2. Self-efficacy	.46***	—			
3. Career identity	.36***	.35***	—		
4. Institutional support	.39***	.28***	.33***	—	
5. Social capital	.28***	.19***	.22***	.41***	—

Note. *** $p < .001$.

3.3. Hierarchical Regression Analysis

Four blocks of hierarchical regression analysis were carried out to test the predictive potential of individual, institutional, and environmental factors on perceived employability, as depicted in **Table 4**. At Block 1, the demographic factors explained 5.3% of the variance for perceived employability ($R^2 = .053$, $F = 8.64$, $p < .001$), where Guangdong province and engineering discipline were identified as significant positive predictors. The addition of individual factors in Block 2, namely self-efficacy (.31, $p < .001$), career identity (.18, $p < .001$), and completion of internship experience (.13, $p = .001$), significantly improved the predictive power by 21.6% ($\Delta R^2 = .216$, $\Delta F = 62.38$, $p < .001$). Self-efficacy was consistently found to be the strongest predictor in all four blocks.

In Block 3, institutional support was added as a predictor variable, which made an additional contribution of 6.8% to the explained variance ($\Delta R^2 = .068$, $\Delta F = 34.51$, $p < .001$). The standardized coefficient was $\beta = .22$ ($p < .001$). In Block 4, social capital was added as a

predictor variable, making an additional contribution of 2.1% to the explained variance ($\Delta R^2 = .021$, $\Delta F = 11.74$, $p < .001$). The final model explained 35.8% of the total variance in perceived employability ($R^2 = .358$, Adjusted $R^2 = .347$, $F = 33.76$, $p < .001$). Self-efficacy was again the largest standardized coefficient in the final model ($\beta = .27$, $p < .001$), followed by institutional support ($\beta = .20$, $p < .001$), career identity ($\beta = .15$, $p < .001$), social capital ($\beta = .14$, $p < .001$), and internship completion ($\beta = .11$, $p = .003$).

Table 4

Hierarchical Multiple Regression Analysis Predicting Perceived Employability

Predictor	Block 1 β	Block 2 β	Block 3 β	Block 4 β
Gender (female)	-.05	-.03	-.02	-.02
Province (Guangdong)	.16***	.09**	.07*	.06*
Discipline (Engineering)	.11**	.06	.05	.04
Family location (urban)	.07	.04	.03	.02
Self-efficacy		.31***	.28***	.27***
Career identity		.18***	.16***	.15***
Internship completed		.13**	.12**	.11**
Institutional support			.22***	.20***
Social capital				.14***
R^2	.053	.269	.337	.358
ΔR^2	.053***	.216***	.068***	.021***

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. Standardized coefficients reported.

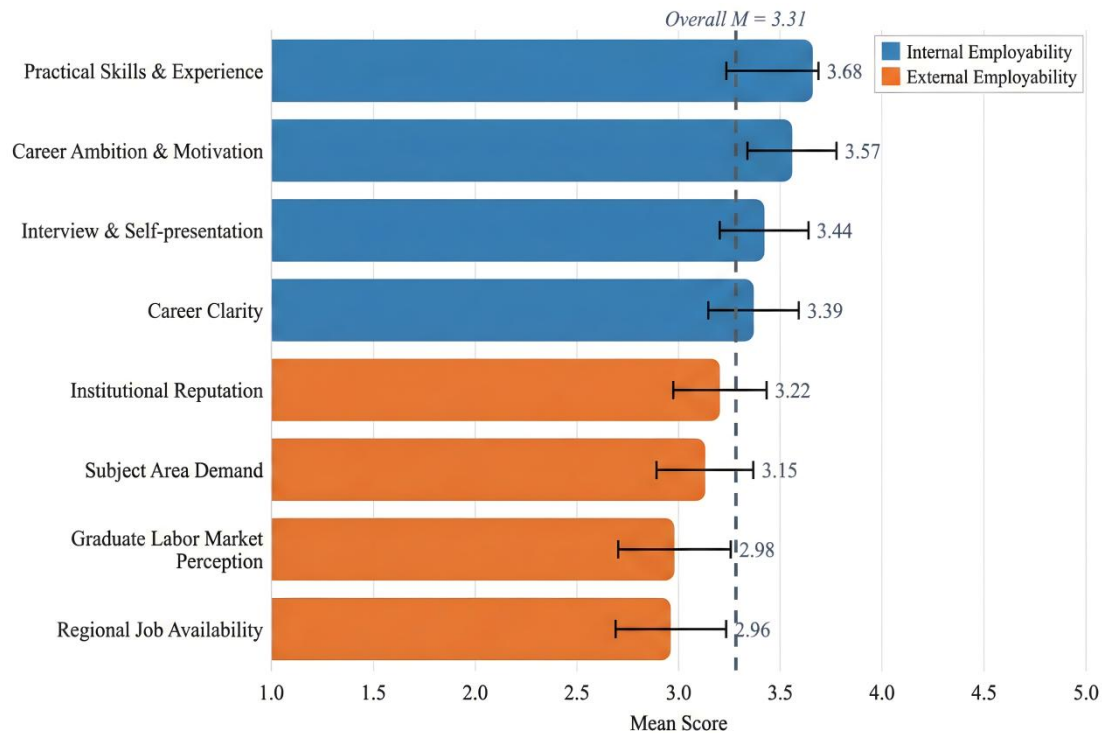
4. Discussion

4.1. Overall Level of Perceived Employability

The aggregate mean score for perceived employability is 3.31 on a five-point scale, representing a moderate level of self-assessed employability among vocational graduates in Southern China. This figure is lower than the commonly reported range of 3.4–3.6 among undergraduates of comprehensive Chinese universities, a discrepancy that may be attributed to the lingering status hierarchy in the Chinese higher education system. As **Figure 2** illustrates, the itemized dimension analysis also points to an evident asymmetry in the ratings of internal and external employability dimensions: the ratings of internal employability questions on the possession of practical skills and hands-on experiences are higher ($M = 3.52$), while the ratings of external employability questions on institutional reputation and labor market recognition are lower ($M = 3.08$).

Figure 2

Comparison of Perceived Employability Dimension Scores



Note. Error bars represent ± 1 standard deviation. Dashed line indicates the overall mean of perceived employability ($M = 3.31$). Internal Employability: PE1–PE8; External Employability: PE9–PE16. Bars are ordered by descending mean scores.

The results across the provinces verify this explanation. To illustrate, graduates from Guangdong Province scored significantly higher than graduates from Guangxi and Hainan Provinces, consistent with the economic gradient seen across the provinces. The strong manufacturing base and employment network in Guangdong may provide students with more tangible career options, which would improve their perceived employment prospects before graduation.

4.2. Effects of Individual, Institutional, and Environmental Determinants

Self-efficacy emerged as the strongest predictor of perceived employability ($\beta = .27$), retaining the highest standardized coefficient from Block 2 through the final model. Past research with Chinese college students has established that general self-efficacy positively influences employability through mechanisms including achievement motivation and career aspirations (D. Wang, Guo, Song, Hao, & Qiao, 2022), with the current study extending this relationship to the vocational population of Southern China. A similar pattern of results has been found with vocational students from the Greater Bay Area of China, whereby career decision-making self-efficacy predicted employability with emotional intelligence as a partial mediator (Zhou, Peng, & Zhou, 2023). Although the current study did not examine the mediated pathways, the strong direct effect confirms that self-belief plays a key role in the assessment of the competitive position of the vocational graduate.

Career identity had a small but significant effect ($\beta = .15$). Literature on professional identity formation among higher education students suggests that emergent professional identity enables the transition from school to work (Tomlinson & Jackson, 2021). The present study's data provide partial support for this theoretical proposition within a vocational context where professional socialization occurs mainly through learning at work. Completing an internship predicted perceived employability ($\beta = .11$), although not to the extent anticipated. Research on Chinese professional degree students suggests that internship duration and cognitive authenticity have more impact than simply completing an internship; perhaps the binary measure used here did not capture the full potential impact of internship (F. Li & Hardy, 2025).

At the institutional level, the additional variance explained by the support factors amounted to 6.8%. Previous research on Chinese vocational students found the significant impact of quality culture and university/industry collaboration in terms of perceived employability (H. Li, Khattak, & Shamim, 2024), and the current data lend credence to the notion of a significant return on investment in employer relationships and guidance. The additional variance explained by social capital was 2.1%. Previous research carried out during the COVID-19 pandemic found a greater impact of social capital, with personal networks highlighted as having a disproportionate effect on the job search process (Shiyuan et al., 2022). Under normalized conditions, as reflected in the current data, social capital takes a secondary position to the individual and the institution.

5. Conclusion and Implications

The objective of the present study was to explore the factors that influence the perceived employability of the 623 vocational college graduates in the southern part of China. The results showed that the perceived employability of the graduates was at a moderate level ($M = 3.31$). A hierarchical regression model was used to explain the variance of the perceived employability of the graduates, which was 35.8%. The results showed that individual factors, especially self-efficacy, were the most important factors influencing the perceived employability of the graduates.

There are a number of practical implications that can be derived from the above-mentioned studies. With regard to vocational colleges, it is evident that interventions focusing on self-efficacy skills through good career guidance and mentor programs can have the most significant effect on the graduates' perception of their employability. In view of the significant role of institutional support, it is necessary to have good industry links as well as career guidance services. The finding that completing internships was a small predictor of

perceived employability reinforces the need to examine the effectiveness of internship programs further. This finding suggests that requiring internships is not necessarily effective in enhancing employability. For education authorities, the large differences in the scores of Guangdong Province and the less-developed provinces suggest that a resource-sharing strategy could be used to improve the employability of the latter two.

There are some limitations to this study which need to be addressed. Firstly, it does not enable causal inference by its cross-sectional nature and may not fully capture the effect of the internship experience by its binary nature. Secondly, by its nature, it does not enable any inference to be made beyond Southern China. Future studies need to adopt a longitudinal study to explore the development of perceived employability during the school-to-work transition and include vocational graduates from central and western China, where economic conditions are significantly different from those in the south.

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Author contributions

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Data availability

No datasets were generated or analysed during the current study.

Declarations

Conflict of interest

The authors declare that there is no Conflict of interest.

Ethics approval

Not applicable.

Consent to participate

Not applicable.

Consent for publication

All authors have given their consent.

Additional information

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