

The Current Situation and Improvement Measures of Employability for College Students in The Post-Epidemic Period in Guangdong

^{1*} Wu Xiaobo , ² Nutteera Phakdeephrot 

^{1,2} Rattanakosin International College of Creative Entrepreneurship,
Rajamangala University of Technology Rattanakosin, Thailand

*Corresponding Author: wu.xiaobo@rmutr.ac.th

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ABSTRACT

The objectives of this research were threefold: (1) to explore the impact of the COVID-19 pandemic on the employability of college students within Guangdong's labor market, (2) to determine the relationship between employment competence and the employability of college students in Guangdong's labor market, and (3) to construct a structural equation model that can facilitate the promotion of employability among college students within the aforementioned labor market. A quantitative research design was utilized in this study, which was conducted within Guangdong province. A total of 402 participants, whose responses were deemed valid, were recruited through an online survey methodology. The subsequent data analysis was carried out using SPSS and AMOS statistical software packages. The primary findings from this research are as follows: The COVID-19 pandemic, as perceived by the participants, had a significant negative effect on the employability of college students. The perceived impact of the COVID-19 pandemic also significantly heightened the sense of employment competition among the students. The increased competition for employment, interestingly, had a positive effect on the employability of college students. Employment competition was found to play a significant mediating role between the perceived impact of the COVID-19 pandemic and the employability of college students. These results offer considerable insights into the complex relationship between the pandemic, employment competition, and student employability, serving as a valuable resource for future initiatives aimed at improving student outcomes in the Guangdong labor market.

1. Introduction

The reverberations of the global pandemic have been far-reaching, profoundly affecting the global well-being and precipitating significant economic repercussions. As one of the most prominent casualties, the global economy has experienced a marked depression, with individual countries manifesting distinct economic disruptions. Notably, Cortes & Forsythe (2023) identified the labour market as bearing the brunt of the pandemic's effects. In Guangdong, these impacts have manifested in diverse ways, particularly influencing the transition of college graduates into the labour market. The absorption rate of this demographic into the workforce has discernibly slowed in the post-epidemic period compared to the pre-pandemic era. Prior to the advent of the COVID-19 pandemic, the annual absorption rate for college graduates in Guangdong was approximately 25% (Wu et al., 2022). However, this figure has experienced a considerable decline because of the pandemic, an alarming indication of the struggling global economy. In the present context, several objective challenges persist regarding the employment of university graduates in Guangdong (Wang, 2021). These encompass delays in graduation, difficulties in securing employment, and obstacles to stable settlement. These issues are of significant concern, especially considering the ongoing ramifications of the pandemic. Yet, the empirical research dedicated to the employment conditions and employment psychology of Chinese college students remains scarce, particularly in the context of the pandemic. A majority of existing studies have primarily focused on the theoretical exploration of the function and practice of education during the COVID-19 outbreak (Chen et al., 2021). Given this backdrop, the present study aims to 1) Investigate the impact of the COVID-19 pandemic on the employability of college students within the labour market in Guangdong. 2) Ascertain the relationship between employment competence and the employability of college students in Guangdong's labour market. 3) Construct a structural equation model to support the enhancement of college students' employability within Guangdong's labour market. 4) Propose actionable measures to respond to the current

employability situation of college students within the Guangdong labour market. 5) By addressing these objectives, this study endeavours to contribute to our understanding of college students' employability in the post-pandemic era and facilitate the development of effective strategies to improve their employment outcomes.

2. Literature Review

The Labor Market Shock Theory suggests that sudden and unexpected changes in the economy or the job market can lead to a significant reduction in employment opportunities, and the COVID-19 pandemic is a prime example of such a shock. The pandemic has resulted in an increase in unemployment rates and a decrease in job opportunities across various industries, making it harder for college students to find employment (Tsurugano et al., 2021). The COVID-19 pandemic has significantly affected college students' job prospects, with employers reducing their hiring plans and cancelling internships and other job opportunities. Furthermore, the Human Resource Theory suggests that employers are more likely to hire candidates who possess the skills and qualities necessary to succeed in a given role (Haldorai et al., 2022). The COVID-19 pandemic has brought about significant changes in the job market, with employers increasingly seeking candidates who can work remotely and possess strong communication and problem-solving skills.

H1: Perceived Covid-19 pandemic negatively affects college students' employability.

The Labor Market Shock Theory suggests that unexpected changes in the job market can lead to a significant reduction in employment opportunities, and the COVID-19 pandemic is a prime example of such a shock. Studies have found that the pandemic has resulted in an increase in unemployment rates and a decrease in job opportunities across various industries, making it harder for college students to compete in the job market (Wordsworth & Nilakant, 2021). A survey conducted by the National Association of Colleges and Employers (NACE) found that the pandemic has affected college students' job search strategies, with many students emphasizing their virtual communication and collaboration skills. The study also found that students who participated in virtual career fairs and networking events were more likely to receive job offers than those who did not. Overall, these studies provide compelling evidence that the COVID-19 pandemic has negatively affected the employment competition of college students, highlighting the need for proactive measures to support their transition to the job market. Strategies such as virtual career fairs, networking events, mentorship programs, and skill-building workshops can help students develop the skills and experience necessary to compete effectively in the post-pandemic job market (King & Kabat-Farr, 2022). Hence, this study proposed:

H2: Perceived Covid-19 pandemic negatively affects employment competition of college students.

The Labor Market Shock Theory suggests that changes in the job market can lead to a significant increase or decrease in employment opportunities. Studies have found that college students who are more competitive in the job market, i.e., possess a unique set of skills and attributes that make them stand out from other candidates, have a higher likelihood of finding employment. Furthermore, the Human Resource Theory suggests that employers are more likely to hire candidates who possess the skills and qualities necessary to succeed in a given role. College students who invest in their personal and professional development, acquire relevant work experience, and develop essential soft skills such as communication, teamwork, and problem-solving, are more likely to stand out in the job market (Forrest & Swanton, 2021).

H3: Employment competition of college students positively affects college students' employability.

The Labor Market Shock Theory suggests that unexpected changes in the job market can lead to a significant reduction in employment opportunities, and the COVID-19 pandemic is a prime example of such a shock. Studies have found that the pandemic has resulted in a decrease in job opportunities across various industries, making it harder for college students to find employment. The pandemic has had a significant impact on college students' employment prospects, with 71% of respondents reporting a decrease in job opportunities. The study also found that

students' confidence in their ability to find employment decreased significantly, with only 46% of respondents reporting feeling confident in their ability to find a job. Furthermore, the Human Resource Theory suggests that employers are more likely to hire candidates who possess the skills and qualities necessary to succeed in a given role (Tien et al., 2021). College students who are more competitive in the job market, i.e., possess a unique set of skills and attributes that make them stand out from other candidates, have a higher likelihood of finding employment.

H4: Employment competition mediates the relationship between the Perceived Covid-19 pandemic and college students' employability.

3. Methodology

The study conducted a questionnaire survey of 402 university students from Guangdong. The questionnaire design is divided into 4 parts, the first part is the survey of the basic situation of the participants. The second part is the perception of Covid-19 pandemic, including 10 questions; the third part investigates employment competitiveness, including 9 questions; the fourth part investigates employability, including 8 questions. The second to fourth parts are completed with a Likert 7-point scale, and 1-7 means strongly disagree-strongly agree.

4. Data Analysis and Results

4.1 Descriptive statistical analysis

Studies used descriptive statistical analysis of participants' Gender, Attribution of institutions, identity, Family income, and Region. The details are shown in Table 1. Participants were nearly twice as female as men, with 146 males and 256 females. Participants were evenly distributed in Attribution of institutions, with 108 positions for Public undergraduate program, 98 for Public vocational College, 100 for Private undergraduate program and 96 for Private vocational College. All participants were come from university Guangdong provinces. From the Family income, the six segments <50000 ¥, 50000-100000 ¥, 100000-150000 ¥, 150000-200000 ¥, 200000-250000 ¥ were evenly distributed. Most are from Rural district, 228 in Rural district and 174 in Urban district.

Table 1 Basic information profile of the participants

		Frequency	Percent
Gender	Male	146	36.3
	Female	256	63.7
Attribution of institutions	Public undergraduate program	108	26.9
	Public vocational College	98	24.4
	Private undergraduate program	100	24.9
	Private vocational College	96	23.9
Are you come from university Guangdong provinces	Yes	402	100.0
	NO	0	0.0
	<50000 ¥	64	15.9
	50000-100000 ¥	55	13.7

Family income	100000-150000 ¥	77	19.2
	150000-200000 ¥	75	18.7
	200000-250000 ¥	69	17.2
	250000 ¥	62	15.4
Region	Rural district	228	56.7
	Urban district	174	43.3

4.2 Reliability and validity analysis

Cronbach's Alpha, or α , is a measure of scale or test reliability. The α coefficient of the questionnaire is above 0.8. The Cronbach's α values were all above 0.85, indicating a good reliability of the questionnaire. The coefficient evaluates the consistency between the scores of each item in the scale, which belongs to the internal consistency coefficient. This method is suitable for the reliability analysis of attitude and opinion questionnaire (scale). As shown in Table 3, the Cronbach's Alpha of this questionnaire was 0.873, with good reliability.

Table 2 Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.874	.870	31

Table 3 Reliability Statistics

Cronbach's Alpha	N of Items
.873	32

As shown in Table 4, the KMO statistic value is greater than 0.5, which shows that the correlation degree between variables is not very different, and the data is very suitable for factor analysis; the result of Bartlett's Test of Sphericity is less than 0.05, the spherical hypothesis is rejected, and there is correlation between original variables, which is suitable for factor analysis.

Table 4 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.852
Bartlett's Test of Sphericity	Approx. Chi-Square	7195.180
	df	351
	Sig.	.000

4.3 Structural equation model

4.3.1 Confirmatory factors analysis

For confirmatory factor analysis, combined reliability (CR) and mean variance extraction (AVE) were used as evaluation criteria for convergence validity. When the CR value of each factor is greater than 0.7 and the AVE value

is greater than 0.50, the convergence validity is good. The passing criterion for distinguishing validity is that the square root value of each factor AVE is greater than the correlation coefficient of the factor with other factors.

Table 5 Convergence Validity

Latent variables	Observation indicators	Factor loading	CR	AVE
Perceived Covid-19 pandemic (Pcp)	Pcp1	0.913	0.931	0.577
	Pcp2	0.778		
	Pcp3	0.788		
	Pcp4	0.766		
	Pcp5	0.843		
	Pcp6	0.674		
	Pcp7	0.680		
	Pcp8	0.662		
	Pcp9	0.767		
	Pcp10	0.685		
Employment competition (Ec)	Ec1	0.565	0.829	0.366
	Ec2	0.514		
	Ec3	0.706		
	Ec4	0.744		
	Ec5	0.689		
	Ec6	0.718		
	Ec7	0.640		
	Ec8	0.247		
	Ec9	0.439		
College students' Employability (Cse)	Cse1	0.686	0.868	0.456
	Cse2	0.739		
	Cse3	0.798		
	Cse4	0.694		
	Cse5	0.599		
	Cse6	0.750		
	Cse7	0.595		
	Cse8	0.485		

Table 6 Distinguish between validity tests

Latent variables	1	2	3
Pcp	0.760		
Ec	-0.248	0.605	
Cse	-0.287	0.602	0.675

Note: The diagonal is the square root of the corresponding dimension AVE

It can be seen from the aggregate validity (Table 5) and discrimination validity (Table 6) that the AVE values of Pcp exceed 0.5, and the CR indicators of all latent variables meet the standard. However, it can be seen from the fitting index (Table 7) that the ratio of chi-square degrees of freedom GFI, AGFI, and NFI has not reached the standard,

check the output results of Modification Indices, sort the MI values from largest to smallest, and find that the residuals Pcp5, Pcp6,Pcp7,Pcp8,Pcp10,Ec2,Ec8,Ec9,Cse2,Cse7,Cse8 correspond to the residual e5, e6, e7, e8, e10, e12, e18, e19, e21 , e26, e27 and other latent variables have high MI values, so these 11 items are removed from the optimization fit. After deleting the questions, the fitting index of the confirmatory factor was improved, and the fitting index of GFI, AGFI and NFI reached the reference standard. In terms of convergence validity, the mean AVE values of each variable were between 0.502 and 0.626, all of which were greater than 0.5, and the combined reliability CR was more than 0.7 from 0.832 to 0.892, indicating that the convergence validity was reliable. It can be seen from the discrimination validity table that the absolute value of the correlation coefficient between any two factors is less than the square root of the corresponding factor AVE, which indicates that there is a certain degree of differentiation between the three factors in the study, so the discrimination validity of the deleted scale is reliable.

Table 7 Confirmatory factor model fit metrics

Fit index	χ^2/df	RMSEA	GFI	AGFI	NFI	TLI	CFI
Reference standards	<3	<0.08	>0.9	>0.85	>0.9	>0.9	>0.9
Before deleting the question	4.980	0.132	0.675	0.617	0.653	0.651	0.681
Result							
After deleting the question	2.918	0.069	0.911	0.881	0.905	0.923	0.935

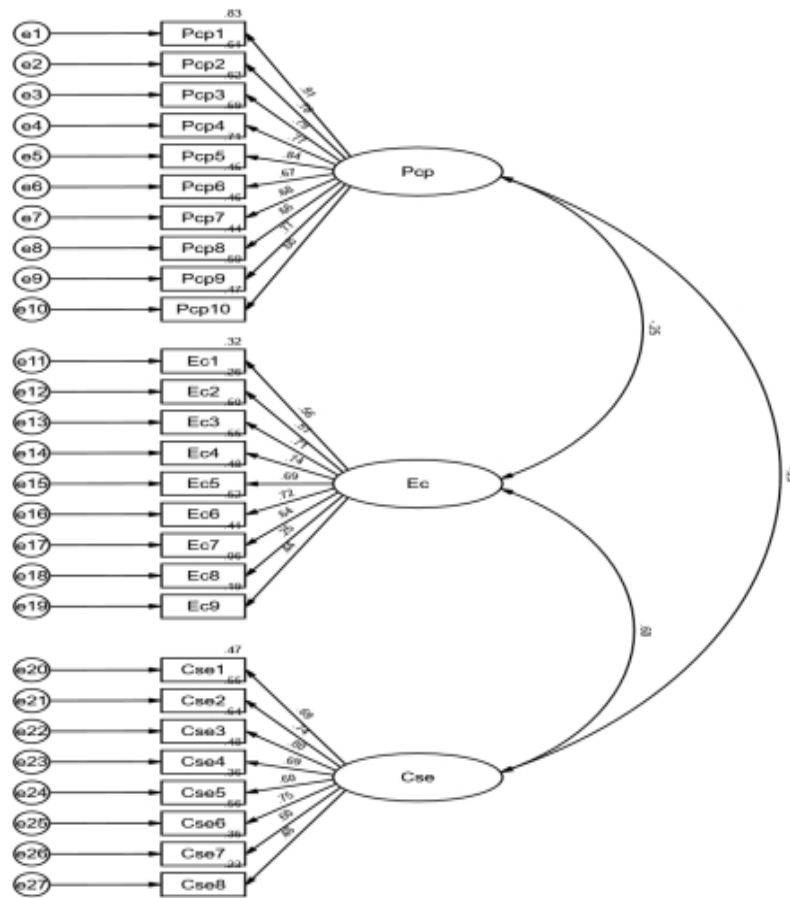


Figure 1 AMOS output of CFA for the structural model (Before deleting the question).

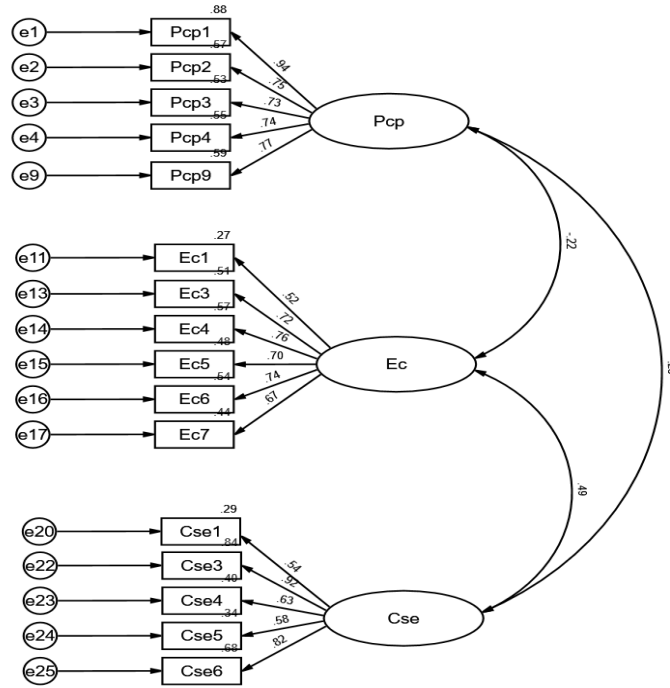


Figure 2 AMOS SPSS output of CFA for the structural model (After deleting the question)

Table 8 Convergence Validity (After deleting the items)

Latent variables	Observation indicators	Factor loading	CR	AVE
Pcp	Pcp1	0.940	0.892	0.626
	Pcp2	0.752		
	Pcp3	0.730		
	Pcp4	0.742		
	Pcp9	0.771		
Ec	Ec1	0.522	0.840	0.502
	Ec3	0.715		
	Ec4	0.757		
	Ec5	0.695		
	Ec6	0.735		
	Ec7	0.665		
Cse	Cse1	0.541	0.832	0.509
	Cse3	0.916		
	Cse4	0.629		
	Cse5	0.581		
	Cse6	0.824		

Table 9 Distinguish between validity tests (After deleting the question)

Latent variables	1	2	3
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Pcp	0.791		
Ec	-0.223	0.709	
Cse	-0.246	0.489	0.713

Note: The diagonal is the square root of the corresponding dimension AVE

Table 10 Model fit metrics

Fit index	χ^2/df	RMSEA	GFI	AGFI	NFI	TLI	CFI
Reference standards	<3	<0.08	>0.9	>0.85	>0.9	>0.9	>0.9
Result	2.918	0.069	0.911	0.881	0.905	0.923	0.935

Table 11 Structural equation model path test

Hypothesis	Path	Estimate	β	S.E.	C.R.	P
H1	Pcp \rightarrow Cse	-0.128	-0.145	0.045	-2.825	0.005
H2	Pcp \rightarrow Ec	-0.169	-0.223	0.044	-3.889	***
H3	Ec \rightarrow Cse	0.532	0.457	0.072	7.445	***

After the structural equation model (Figure 3) is established, the estimated value of the detection path, the standardized path coefficient, the standard error S.E., C.R. value and the significance P value are obtained through the model fitting and measurement of the software. In general, if the decision value C.R. is greater than 1.96, and the p value is less than 0.05, it can be considered that this path coefficient can pass the significance test within the 95% confidence interval, indicating that the corresponding path hypothesis of the preset model is true; Otherwise, the assumption is not true. The test results (Table 11) are: Perceived covid-19 pandemic had a significant negative effect on college students' employability ($\beta=-0.145$, $p<0.050$). Hence, H1 is supported. Perceived covid-19 pandemic had a significant negative effect on employment competition ($\beta=-0.223$, $p<0.001$). Hence, H2 is supported. The positive effect of employment competition on college students' employability was significant ($\beta=0.457$, $p<0.001$). Hence, H3 is supported.

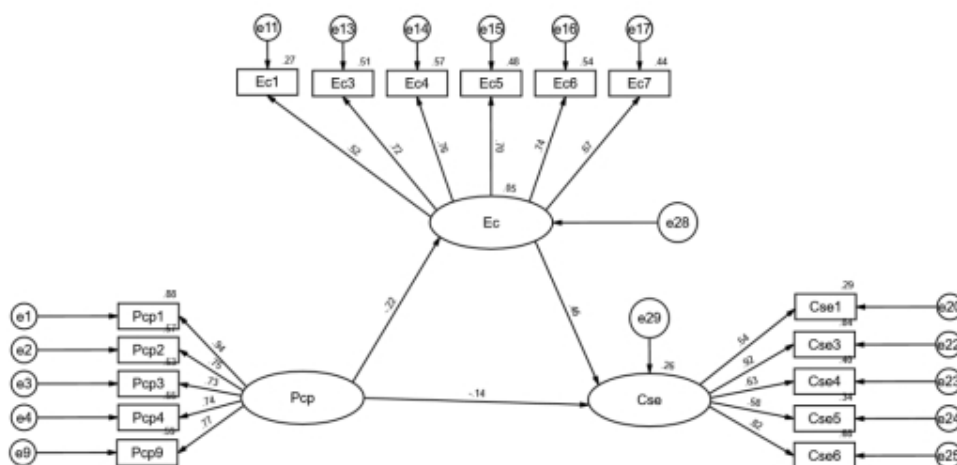


Figure 3. AMOS output of Path Diagram for the structural model (with hypotheses)

Table 12 Mediation effect bootstrap test

Mediation path	Effect size	SE	Bias-Corrected	
			95% CI	
Pcp→Ec→Cse	-0.090	0.030	-0.156	-0.036

Table 12 Indicates: The 95% upper and lower intervals of the "Pcp → Ec → Cse" mediation path were [-0.156, -0.036], excluding 0, indicating that employment competition had a significant mediating role between Perceived Covid-19 pandemic and college students' employability, with an effect value of -0.090. Hence, H4 is supported. In summary, the study discussed the relationship between Perceived Covid-19 pandemic, employment competition and college students' employability, and the study determined the predictive effect of Perceived Covid-19 pandemic, employment competition on college students' employability. Among them, Perceived Covid-19 pandemic has a reverse predictive effect, and employment competition has a positive predictive effect, and has an intermediary role in the model.

5. Conclusion

Building upon the foundations of Labor Market Shock Theory and Human Capital Theory, this study offers critical insights into the influence of the COVID-19 pandemic on the employability of college students in Guangdong, while also addressing the role of employment competition within this context. The results affirm that the pandemic, as perceived by the students, has exerted a significant negative impact on both the employability of students and the intensity of employment competition. Intriguingly, despite its challenges, heightened employment competition was found to have a positive effect on students' employability, serving as a mediating variable between the pandemic and employability. These findings underscore the multifaceted dynamics of the contemporary labour market, in which crisis conditions, intensified competition, and employability are interwoven in complex manners. They emphasize the necessity for students to augment their human capital, facilitating their ability to compete effectively in the job market and adapt to the evolving exigencies of the post-pandemic workforce. Furthermore, the results bring into focus the pivotal roles of educational institutions, employers, and policymakers. There exists an immediate requirement for these stakeholders to respond to these challenges and assist students in cultivating the requisite skills and competencies for this new work landscape. This could involve a reconceptualization of career services, an enhancement of collaboration between industry and academia, and the execution of policy interventions that foster job creation and graduate employability. Although the COVID-19 pandemic has precipitated unparalleled disruptions in the labour market, our study demonstrates that it has simultaneously fostered an environment promoting resilience, adaptability, and competitive readiness among college students. As we persist in navigating, and ultimately emerge from, this crisis, we hope that these insights will contribute to the formulation of effective strategies that enhance students' employability and transition into the workforce. In summary, our research presents a compelling narrative concerning the labour market realities faced by college students amidst a global pandemic, and their demonstrated resilience in navigating these challenges. These findings lay the groundwork for further research and practical interventions intended to bolster student employability following substantial labour market shocks.

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