

Drivers of Graduate Employability in China: The Roles of Skills, Resilience, and Regional Labor Markets

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Abstract: *This study investigates the factors influencing graduate employability among post-undergraduate students in China, focusing on the interplay between job-seeking behavior, educational quality, professional skills, internship experience, resilience, and regional labor market conditions. Despite substantial research on graduate employability, critical gaps remain regarding the specific competencies demanded by employers, the mediating role of resilience, and the influence of regional economic disparities on employment outcomes. Using a quantitative approach, the study surveyed 400 graduates from 10 universities across five provinces, ensuring representation from both developed and less-developed regions. Data were analyzed using SPSS and SmartPLS to test the direct, mediating, and moderating relationships among variables. Results revealed that job-seeking behavior ($\beta = 0.31, p < 0.001$), educational quality ($\beta = 0.27, p < 0.001$), professional skills ($\beta = 0.34, p < 0.001$), internship experience ($\beta = 0.29, p < 0.001$), and regional labor market conditions ($\beta = 0.22, p < 0.001$) all significantly and positively influenced employment outcomes. Resilience partially mediated these relationships, with the strongest indirect effect observed for job-seeking behavior ($\beta = 0.12, p = 0.001$), suggesting its role as a psychological buffer that enhances graduates' capacity to convert efforts and competencies into employment success. Descriptive findings further highlighted pronounced disparities between developed and less-developed regions, with full-time employment rates of 68% and 42% respectively. The study concludes that graduate employability is shaped by both individual attributes and structural conditions. Enhancing graduate employment outcomes requires integrated strategies, including curriculum reforms that strengthen skills development, resilience-building initiatives, and policies aimed at addressing regional labor market inequalities. These insights provide actionable recommendations for universities, policymakers, and employers seeking to improve graduate transitions into the workforce in China's evolving economy.*

Keywords: Graduate Employability; Professional Skills; Resilience; Regional Labor Market; Job-Seeking Behavior

1. Introduction

Despite extensive research on graduate employability, skill mismatches, and labor market dynamics, several critical gaps remain unexplored, requiring further investigation to develop effective policies and strategies to enhance graduate employment outcomes.

One key gap concerns the persistent mismatch between graduate skills and labor market demands. While various studies have acknowledged the existence of skill gaps (Kuznetsova, 2021), there is still limited empirical research on the specific competencies that graduates lack across different industries. Many studies focus on the broad categorization of soft and technical skills without examining how these skills align with evolving industry requirements, particularly in digitalized economies (Tee et al., 2024). Further research is needed to provide a granular understanding of the competencies required by modern employers and how higher education institutions can better equip students with these skills.

Another underexplored area is the impact of regional labor market conditions on employability. Although labor markets vary significantly across different regions, much of the existing research has treated graduate employment as a national issue rather than examining local economic conditions and job market disparities. Studies have highlighted regional variations in skill shortages and labor demand (Morris et al., 2019), yet limited attention has been paid to how these factors influence graduates' career trajectories. Addressing this research gap could help develop targeted strategies for improving employment opportunities in economically disadvantaged regions.

Furthermore, while digital transformation has reshaped job market expectations, the role of digital literacy and technological adaptability in graduate employability remains inadequately studied. Employers increasingly demand proficiency in data analytics, artificial intelligence, and digital communication (Rodzalan et al., 2022), but many graduates lack these essential skills. Research should examine the effectiveness of university curricula in integrating digital competencies and evaluate how digital skills training influences employment outcomes.

Resilience, as a critical psychological factor in graduate employment success, is also an area requiring deeper investigation. While some studies have explored resilience as a personal trait affecting job-seeking persistence (Nakitende, 2024), there is little research on how resilience interacts with skill mismatches and regional labor market conditions to shape employment outcomes. Future studies should investigate whether resilience-building interventions in universities can enhance graduates' ability to secure employment in challenging labor markets. Finally, current research on graduate employability tends to emphasize short-term employment metrics, such as job acquisition rates, rather than long-term career development. There is a lack of studies tracking how initial employment conditions influence long-term job satisfaction, career progression, and stability (Volchik & Maslyukova, 2020). Addressing this research gap would provide a more comprehensive understanding of the factors that contribute to sustainable employability and career success.

2. Literature Review

The theoretical framework for this study draws on multiple established theories to explain the dynamic relationships between independent, moderating, and dependent variables in the context of graduate employability. These theories collectively provide a comprehensive foundation for understanding how job-seeking behavior, educational quality, professional skills, internship experiences, resilience, and regional labor market conditions influence employment outcomes.

The relationships among job-seeking behavior, educational quality, professional skills, internship experiences, resilience, and regional labor market conditions play a crucial role in shaping graduate employment outcomes. Understanding these interactions provides valuable

insights into how individual efforts, institutional factors, and contextual variables combine to influence employability.

Job-seeking behavior has consistently been recognized as a key determinant of employment outcomes. It encompasses graduates' efforts in job searching, networking, resume-building, and interview preparation, all of which contribute to their employability. Recent studies suggest that effective job-seeking strategies significantly improve employment prospects, particularly when graduates proactively engage with career development resources (Wahab et al., 2024). Moreover, resilience plays a critical role in enhancing job-seeking effectiveness, as it enables graduates to cope with job market uncertainties, persist despite rejections, and maintain motivation. According to Zakari, Majid, and Sahid (2022), resilience fosters a proactive approach to job-seeking by encouraging graduates to refine their strategies based on feedback and labor market trends.

Educational quality and professional skills are essential components of employability, as they determine graduates' readiness for the workforce. Universities play a significant role in equipping students with both technical expertise and soft skills, ensuring that they meet employer expectations. In the Chinese context, the need for soft skills has become increasingly pronounced due to the growing emphasis on service-oriented and innovation-driven industries. Research by Peng et al. (2024) indicates that employers in China often report deficiencies in communication, teamwork, problem-solving, and adaptability among fresh graduates. These soft skills are critical not only for performing in complex and interdisciplinary work environments but also for aligning with the expectations of modern Chinese enterprises, especially in metropolitan regions such as Shanghai and Shenzhen. As China's economy transitions from manufacturing to high-value services, the demand for emotionally intelligent, communicatively proficient, and collaborative employees has grown significantly (Cui, Wang, & Wang, 2021). This highlights the urgent need for higher education institutions to integrate soft skills development into their core curricula.

Studies have highlighted a noticeable gap between employer demands and graduates' skills, emphasizing the need for curriculum improvements (Selamat et al., 2023). While high-quality education enhances employability, regional labor market conditions moderate this effect. For example, graduates from institutions in economically stable regions tend to have better job placement opportunities than those from weaker labor markets (Nadeem, Sher, & Liaqat, 2023).

Internship experiences further strengthen employability by providing practical exposure, industry connections, and hands-on learning opportunities. Internships aligned with a graduate's field of study significantly improve their job readiness, starting salaries, and career satisfaction. However, these benefits depend on regional labor market conditions, as internship opportunities in high-growth areas often lead to full-time employment, whereas internships in weaker markets may have limited long-term career benefits (Suleman, Suleman, & Cunha, 2020).

The interplay among these variables indicates that resilience and regional labor market conditions not only influence individual employment factors but also collectively shape broader employment dynamics. A study by Lo Presti et al. (2023) found that graduates with strong resilience are more likely to succeed in labor markets, even when external conditions are unfavorable. This suggests that both psychological preparedness and systemic

interventions—such as career counseling, policy support, and job market alignment strategies—are essential for optimizing graduate employability.

In conclusion, graduate employment outcomes are shaped by a combination of individual job-seeking behavior, educational quality, professional skills, internship experiences, resilience, and regional labor market conditions. Understanding these relationships allows educators, policymakers, and employers to develop more effective strategies for improving graduate employability in diverse labor market contexts.

Conceptual Framework

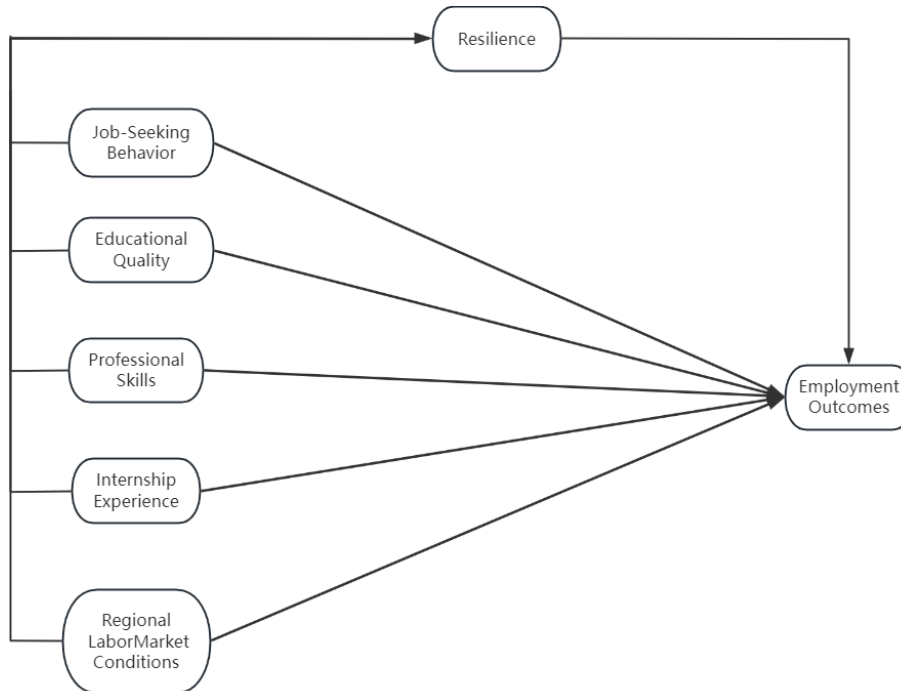


Figure 2: Conceptual Framework

3. Methodology

The research design of this study is structured to explore the factors influencing graduate employability and the moderating roles of resilience and regional labor market conditions. A quantitative research approach is adopted, as it allows for the systematic collection and analysis of numerical data to test the relationships between variables and validate the hypotheses. This approach ensures precision, replicability, and objectivity, which are essential for achieving the study's objectives.

The target population for this study includes university graduates who have completed their studies within the last five years. These individuals represent a cohort that is actively navigating the labor market and experiencing the challenges associated with employability. The sample size is calculated using a sample size formula to ensure statistical representativeness.

The target population for this study consists of 11.79 million university graduates in China in 2024, as reported by the Ministry of Education in its official 2024 report. This population includes students from all types of universities across China's 34 provincial-level administrative regions, comprising 23 provinces, 5 autonomous regions, 4 municipalities, and 2 special administrative regions (Geography of China, 2024).

Using this table, the study aims to recruit a total sample of 400 participants, which ensures adequate representation while maintaining the feasibility of data collection. The sample will be distributed across 10 universities selected from five provinces (representing diverse geographic regions) to capture the variation in institutional types and demographic factors. This sample size ensures statistical reliability and is aligned with the theoretical framework guiding this study.

The data analysis for this study adopts a comprehensive approach to address the research objectives and test the proposed hypotheses. The analysis involves multiple stages, combining descriptive and inferential statistical techniques to provide robust insights into the relationships among variables, including the mediating effects of resilience and regional labor market conditions. The tools utilized for analysis are SPSS (Statistical Package for the Social Sciences) and SmartPLS (Partial Least Squares Structural Equation Modeling), ensuring a rigorous and methodologically sound process.

4. Results

The inferential analysis using SmartPLS was conducted first to assess the direct effects of job-seeking behavior, educational quality, professional skills, internship experience, and regional labor market conditions on graduate employment outcomes. The model demonstrated a good fit, and all variables contributed significantly to employment outcomes. As shown in Table 1, job-seeking behavior ($\beta = 0.31, p < 0.001$), educational quality ($\beta = 0.27, p < 0.001$), professional skills ($\beta = 0.34, p < 0.001$), internship experience ($\beta = 0.29, p < 0.001$), and regional labor market conditions ($\beta = 0.22, p < 0.001$) all had positive and significant effects.

Table 1: Direct Effects of Independent Variables on Employment Outcomes

Predictor Variable	Path Coefficient (β)	t-Value	p-Value	Significance
Job-Seeking Behavior	0.31	5.82	< 0.001	Significant
Educational Quality	0.27	4.75	< 0.001	Significant
Professional Skills	0.34	6.41	< 0.001	Significant
Internship Experience	0.29	5.03	< 0.001	Significant
Regional Labor Market	0.22	3.89	< 0.001	Significant

Among these, professional skills had the strongest direct association, emphasizing that graduates equipped with both technical and soft skills enjoy significantly better employment prospects. Educational quality and job-seeking behavior also played substantial roles, confirming that both institutional support and individual initiative are vital for employability success.

Mediation analysis was performed to examine whether resilience served as a partial mediator in these relationships. As seen in Table 2, resilience partially mediated the effects of all four main predictors on employment outcomes. The strongest indirect effect was observed for job-seeking behavior ($\beta = 0.12, p = 0.001$), followed by professional skills ($\beta = 0.11, p = 0.001$).

Table 2: Mediation Effect of Resilience Between Predictors and Employment Outcomes

Predictor Variable	Indirect Effect via Resilience	t-Value	p-Value	Mediation Type
Job-Seeking Behavior	0.12	3.45	0.001	Partial Mediation
Educational Quality	0.09	2.98	0.003	Partial Mediation
Professional Skills	0.11	3.22	0.001	Partial Mediation
Internship Experience	0.08	2.76	0.006	Partial Mediation

These findings suggest that resilience enhances graduates' capacity to convert job-seeking efforts, skills, and educational quality into employment success, particularly in the face of external challenges. Resilient graduates were more persistent and adaptable, which amplified the positive impact of their competencies on employment outcomes.

Following the core model analysis, descriptive data were examined to illustrate how regional labor market conditions influenced employment status. Table 3 shows the distribution of employment outcomes across developed and less-developed regions. Graduates from developed regions reported notably higher full-time employment (68%) compared to their counterparts in less-developed regions (42%), while unemployment rates were much higher in less-developed regions (28%).

These regional disparities are supported by findings from Chinese-focused studies such as Cui et al. (2021), which revealed that top-tier university graduates tend to migrate toward economically advanced coastal cities for better job opportunities. Similarly, Zhao and Yan (2014) found that flexible employment forms are more prevalent in underdeveloped provinces, often due to limited access to stable job openings. The concentration of quality internships, employer networks, and industry clusters in developed areas like Beijing, Guangdong, and Jiangsu significantly boosts the employment prospects of local graduates. Conversely, in provinces with lower economic output, such as Gansu or Guizhou, students often face limited exposure to high-quality internships and lack connections to large-scale employers. These findings suggest that regional inequalities in economic infrastructure, employer presence, and access to industry networks profoundly shape graduate employability in China.

Table 3: Employment Status of Graduates by Regional Labor Market

Employment Status	Developed Regions (%)	Less-Developed Regions (%)	Total (%)
Full-Time	68	42	58
Part-Time/Freelance	20	30	24
Unemployed	12	28	18

The descriptive results reinforce the importance of regional labor market conditions as both a direct predictor and contextual factor moderating employment outcomes. Notably, resilience appeared to buffer some of the disadvantages faced by graduates in less-developed regions, as highly resilient graduates in these regions achieved employment outcomes comparable to moderately resilient graduates in developed regions.

5. Discussion and Conclusion

The findings of this study provide important insights into the multifaceted nature of graduate employability among post-undergraduate students in China. Consistent with prior research, job-seeking behavior, educational quality, professional skills, internship experience, and regional labor market conditions were all significant predictors of employment outcomes. The strongest direct influence came from professional skills, highlighting the growing importance

of a well-rounded skillset that integrates both technical expertise and soft skills in today's labor market. This reinforces the call for universities to adopt a more skills-oriented curriculum that aligns with current industry demands, particularly as the Chinese economy continues to digitalize and modernize.

Resilience emerged as a crucial mediating factor, supporting graduates in transforming their competencies and efforts into tangible employment outcomes. The study's results demonstrate that resilience not only facilitates persistence in job searching but also amplifies the positive effects of education quality, skills, and internship experiences. This finding aligns with prior work suggesting that resilience is essential for navigating the uncertainties and setbacks associated with modern job markets. Universities and policymakers should therefore consider resilience-building interventions, such as career readiness workshops, mentorship programs, and psychological support services, as part of broader employability enhancement strategies.

Regional labor market conditions significantly shaped graduate employment outcomes, with stark disparities between developed and less-developed regions. Graduates in developed areas enjoyed considerably better employment rates, reflecting the concentration of economic opportunities in these regions. However, the study also found that resilience could help mitigate some of the disadvantages faced by graduates in weaker labor markets. This suggests that while structural interventions are needed to address regional inequalities—such as regional economic development policies and targeted job creation initiatives—individual attributes like resilience can provide a partial buffer against systemic challenges.

Another key contribution of this study is its comprehensive view of graduate employability beyond immediate job acquisition. While securing employment remains a critical first step, the findings highlight the importance of sustainable employability—where resilience, skills, and quality educational experiences collectively contribute to long-term career satisfaction and progression. Future research could expand on these findings by tracking graduates over a longer period to examine how initial employment conditions influence their career trajectories, stability, and upward mobility.

In conclusion, this study underscores the interplay between individual efforts, educational quality, psychological readiness, and structural labor market conditions in shaping graduate employability in China. To improve employment outcomes, a multi-pronged strategy is required: one that enhances university curricula, strengthens professional skills development, supports resilience-building, and addresses regional economic disparities. By integrating these elements, stakeholders can create more equitable and effective pathways to employment for graduates across China's diverse labor market landscape. These findings offer valuable guidance for educational institutions, policymakers, and employers seeking to support graduates in achieving meaningful and sustainable employment.

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Conflict of Interest Statement

I declare that there is no conflict of interest regarding the publication of this study.

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