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Understanding College Graduates' Employability and Its Impact on Employment and Career Outcomes: An Empirical Study to Validate the Chinese Graduate Employability Scale (CGES)

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Doctor of Management

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PhD MA Shaozhuang, Associate Professor with Habilitation,
ISCTE University Institute of Lisbon

PhD DU Yifei, Professor,
University of Electronic Science and Technology of China

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YU Dan

Declaration

I, the undersigned, hereby certify and declare on my honour that my submitted English thesis corresponds to Chinese version of the thesis and the two versions are the same in what concerns title, table of contents, main text (including chapters, sub chapters, figures, tables), and references.

Date: 3.15.2022

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作者申明

本人郑重申明：我所呈交的英文版博士论文完全对应我的中文版博士论文，中英文版论文的论文题目，目录，论文正文(包括章节标题和图表)以及文献均一致和相同。

日期: 2022.3.15

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Abstract

The employment difficulty of college graduates has been an issue of concern for Chinese universities and society for years, and a reliable measurement instrument for the concept of employability is needed. A longitudinal study was conducted to test the reliability and validity of the Chinese Graduate Employability Scale (CGES) and to examine the influence of college graduate employability on their post-graduation career development. Specifically, this study collected data in two time points respectively in 2019 (T1) and 2021 (T2) and tracked the sampled 2019 graduates' employment outcomes and post-graduation career development.

Exploratory factor analysis and confirmatory factor analysis were conducted on a sample (n=2,724) of 2019 fresh graduates from 17 universities across China to validate CGES and its three dimensions: “job-hunting skills” , “self-marketing skills” and “social skills”. The scale has high and stable convergent and discriminant validity and internal consistency reliability. Regression analysis shows that college students' employability is positively associated with their satisfaction with employment outcomes upon graduation, and employability is positively related to their emotional intelligence. A longitudinal study (n=268) two years later (2021) shows that college students' employability is positively related to their person-organization fit and career adaptability after graduation. These results demonstrate the criterion validity of the scale.

Overall, the studies suggest that CGES is a reliable and valid measurement instrument for the scientific research of college graduate employability in China.

Keywords: Employability; Chinese Graduate Employability Scale (CGES); Person-Organisation Fit; Career Adaptability; Emotional Intelligence

JEL: M10; M12

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Resumo

As dificuldades que os licenciados têm tido em entrar no mercado de trabalho tem sido uma preocupação para as universidades chinesas e a sociedade em geral, sendo necessário o desenvolvimento de um instrumento de medida fiável para o conceito de empregabilidade.

Foi realizado um estudo longitudinal para testar a fiabilidade e a validade da Escala Chinesa de Empregabilidade de Graduados (*Chinese Graduate Employability Scale* - CGES) e para analisar a influência da empregabilidade dos graduados no desenvolvimento da carreira após a licenciatura. Mais especificamente, neste estudo foram recolhidos dados em dois momentos de tempo, 2019 (T1) e 2021 (T2) e acompanhado o desempenho em termos de emprego dos graduados que integram a amostra em 2019 e o desenvolvimento da sua carreira após a licenciatura.

A análises fatorial exploratória e a análise fatorial confirmatória foram aplicadas a uma amostra (n=2,724) de recém-licenciados em 2019, provenientes de 17 universidades da China, para validar a escala CGES e as suas três dimensões: “competências na procura de emprego”, “competências de marketing pessoal” e “competências sociais”.

A escala revelou possuir validade convergente e discriminante, e fiabilidade aferida pela consistência interna. A análise de regressão mostra que a empregabilidade está associada de forma positiva com a satisfação com o emprego após a conclusão da licenciatura e com a inteligência emocional. O estudo longitudinal (n=268) dois anos mais tarde (2021) mostra que a empregabilidade é positivamente relacionada com a congruência pessoa-organização e com a adaptabilidade da carreira após a licenciatura. Estes resultados demonstram a validade de critério da escala.

Em termos gerais, os estudos sugerem que a CGES é um instrumento de medida fiável e válido para a investigação científica sobre a empregabilidade de licenciados na China.

Palavras-chave: Empregabilidade; Escala Chinesa de Empregabilidade de Graduados (CGES); Congruência Pessoa-Organização; Adaptabilidade da Carreira; Inteligência Emocional

JEL: M10; M12

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摘 要

多年来，大学生就业难一直是中国高校和社会关注的话题，亟需可靠的测量工具来测量就业能力这个概念。本研究为一项纵向实证（longitudinal study）研究，作者通过 2019 年（T1）和 2021 年（T2）的两次数据收集，跟踪了 2019 年应届毕业生的就业情况及毕业后的职业发展情况，在此基础上对中国大学生就业能力量表（CGES）进行了信度和效度检验，并检验了大学生的就业能力对其毕业后职业发展的影响。

作者通过对来自中国 17 所高校的 2019 年应届毕业生样本（ $n=2,724$ ）进行探索性和验证性因子分析，验证了 CGES 及其三个维度：“就业求职”、“个人营销”和“社会交往”。该量表具有较高和稳定的聚合效度和区分效度（convergent and discriminant validity）以及内部一致性信度（internal consistency reliability）。回归分析结果表明，大学生就业能力正向影响大学生毕业时的就业结果满意度，且大学生就业能力与情绪智力正相关。两年后（2021 年）对样本中的 268 人展开的纵向研究表明：大学生就业能力对大学生毕业后个人-组织匹配和职业适应能力产生正向影响。这些结果证明了该量表的效标效度（criterion validity）。

总体而言，本研究表明，CGES 是中国大学生就业能力科学研究的可靠和有效的测量工具。

关键词：就业能力；中国大学生就业能力量表（CGES）；个人-组织匹配；职业适应能力；情绪智力

JEL: M10; M12

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After five years of study in the DoM program, now I am finally completing my thesis. At this moment, I no longer have the desire to graduate early that I had when I just embarked on this journey. Instead, I somehow already feel nostalgic about the good old days with my teachers and classmates.

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List of Abbreviations

ANOVA: analysis of variance

AVE: average variances extracted

CGES: Chinese Graduate Employability Scale

CFA: confirmatory factor analysis

CFI: comparative fit index

DEST: Department of Education, Skills and Employment

EFA: exploratory factor analysis

GFI: goodness-of-fit index

PCA: principal component analysis

RMSEA: root mean squared error of approximation

SRMR: standardized root mean square residual

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Chapter 1: Introduction

This chapter first introduces the research background of the present study, followed by the research problem, research objectives, research questions, research methods, and thesis structure.

1.1 Research background

1.1.1 Contextual background

Since college enrolment expansion in China, improving the employment quality and employment rate of college graduates has become a topic of public interest. The basic reasons for this include mass development of higher education (Gao et al., 2012; Zeng, 2004), introduction of the market-oriented employment mechanism (X. Y. Zhang, 2020), industrial development and restructuring, transformation of the socio-economic system and increased overall employment pressure in society, all of which have led to increased employment difficulty for college graduates. As a result, college students have become the centre of public attention and a topic of keen political and social interest. As college students are valuable human resource of the country (R. D. Li & Zhang, 2021), improving the employment quality of college graduates is of profound significance to China's development into an innovation-oriented country (J. Zhang & Chen, 2020) and a country rich in human resources (Lai, 2014). China's higher education has undergone the transformation from "elite education" to "mass education", and the number of college graduates has increased significantly. In this context, the employment problem of graduates has been highlighted and attracted widespread attention from society (Yue & Bai, 2018). As mass higher education becomes a constant, graduates are now faced with more and more prominent employment difficulties, which has drawn widespread attention from policy makers and various related interest groups (Gao et al., 2010).

According to the conceptualization of the development of higher education into three stages, elite (<15%), mass (15%-50%) and universal (>50%) systems (known as Martin Trow's elite-mass-universal triptych) by Trow et al. (2009), the development of higher education in China can be basically divided into three stages: The first stage is the period before 1999, when China's higher education was basically in the elite stage and the gross enrolment rate of mass

higher education was far less than 15%. The second stage consists of two sub-stages, namely the period from 1999 to 2002 and the period from 2002 to 2019. During the former sub-stage, the implementation of the college enrolment “expansion” policy gradually increased the enrolment rate to 15%, meeting the benchmark of the mass higher education stage, based on which many scholars believed that China already entered the mass higher education stage in 2002 (L. M. Yang, 2008). With the spread of mass higher education, the enrolment rate rose to 51.6% by 2019, thus achieving universal access (M. Y. Yu, 2020). The third stage refers to the period from 2019 to the present, when China’s higher education has entered the mass stage, with progressively higher and more stable enrolment rates. Thus, over the 40 years since China’s Reform and Opening Up, China’s gross enrolment rate (GER) in higher education increased from 2.7% in 1978 to 54.4% in 2020, achieving the target of “reaching a GER of 40% in higher education by 2020” proposed in the Outline of the National Medium- and Long-Term Programme for Education Reform and Development ahead of schedule. Besides, China has exceeded the average of middle- and upper-income countries and become the world’s largest country in terms of higher education. This also indicates that China’s higher education has gradually transformed from elite education to mass education. However, the employment rate of graduates has been decreasing significantly in China despite the rapid enrolment expansion.

Statistics about the employment status of graduates in recent two years show that the employment rate continued to decline over the last two years (see Figure 1.1), from 91.0% in 2018 to nearly 80.1% in 2019, down by 1.6% and 12.5% respectively compared to 92.6% in 2014 (Industry Channel, 2020, February 26). In the meantime, the proportion of graduates with employment contracts continued to decline for the fifth consecutive year in 2018 (Industry Channel, 2020, February 26), accounting for only 73.6% of all the graduates. In contrast to the declining employment rate, the number of graduates continued to increase from 8.74 million in 2020 to 9.09 million in 2021, a year-on-year increase of 400,000 and 350,000 respectively, setting new records in history (Jiao, 2020). With the accelerated globalization and economic integration, the prosperity of countries, societies and enterprises relies on the continuous upgrading and replenishment of the knowledge, skills and abilities of the workforce. Therefore, how to enhance the employability of college students and improve national competitiveness through effective means has become a topic of shared concern (Ye, 2021).

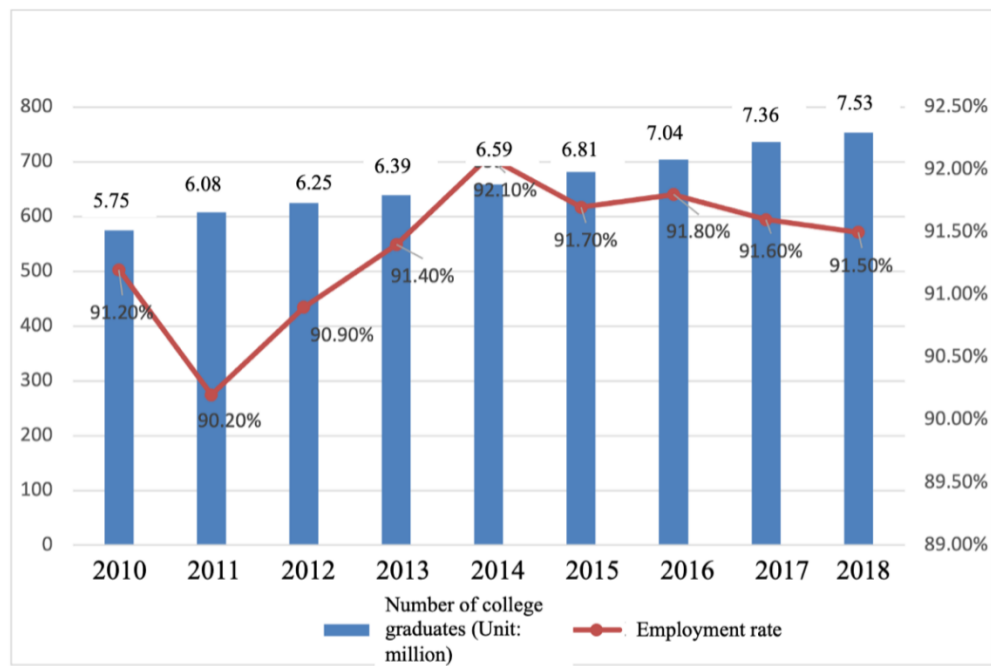


Figure 1.1 Number of college graduates and employment rates from 2010 to 2018

Source: Q. Zhou (2020); MyCOS Research Institute (2021)

However, many scholars pointed out that the root cause of the employment conflict is that the employability of existing graduates seriously falls short of the needs of enterprises (Dong, 2007; Z. Y. Xie, 2005; X. M. Zheng, 2002). In this sense, the employability of college students should be one of the issues that Chinese higher education institutions, especially those that mainly train undergraduates, should seriously reflect on and take concrete actions to improve. Although China's higher education development entered the mass stage in 2019, college students are still high-level and scarce human resources for the society, and it is all the more important to improve their employability. So, there is a need to conduct in-depth research on and exploration of college students' employability from both the theoretical and practical perspectives to resolve the employment conflicts of graduates. In other words, the employability of college students is not only a practical problem, but also a theoretical one. In a word, improving the employability of college students has become a key research topic for addressing the employment contradictions, which bears practical significance.

The employability of college students is one of the important indicators reflecting the fit between higher education talent training and labour market demand as well as an important dimension for measuring the quality of higher education talent training (Shi & Wen, 2012). On January 26, 2017, China's State Council put forward in the "13th Five-Year Plan" for Promoting Employment that "by 2020, the following goals should have been achieved: the employability and entrepreneurial ability of workers will have been significantly improved, and the quality of

workers will have been generally improved.” To this end, it is necessary to “enhance the ability of college students, especially graduates, to make self-assessment, develop their careers and choose jobs.” This reflects the need to improve the employability of workers themselves to promote employment. For college students, improving their own employability is a very important aspect to improve their initiative in the job selection market, to adapt to the fierce competition for employment, and to stand out from it.

1.1.2 Theoretical background

Employability is a “ubiquitous” and “variegated” concept (Fugate et al., 2004; McQuaid & Lindsay, 2005). Some Chinese scholars try to follow the trajectory of the concept of employability in Europe and the U.S., and then clarify the essence of employability (L. Wang & Lv, 2021). For example, X. J. Wang and Sun (2018), by reviewing the evolution of the concept of employability in foreign countries in the past 30 years, came to the following conclusion: the employability of college students refers not only to the abilities and personal traits required for initial employment after graduation, but also to the personal traits and various abilities required for college students to build a good career (F. Zhou & Lin, 2020) and participate meaningfully in social life (X. J. Wang & Sun, 2018). Some scholars also pointed out that it is neither necessary nor possible to seek a unified definition of employability, and called on researchers to explore, clarify and form an authoritative definition of employability at the appropriate level or type according to the characteristics and actual situation of their disciplinary fields (Y. Z. Xie et al., 2013).

The history of research on the employment of college students in China is not long and can be divided into two stages. The first stage is no-research period under the planned economy system, which mainly refers to the planned economy period and the early stage of economic system transformation in China. In this stage, the employment of college students in China was determined by state allocation. Under this employment system, college students did not have to face employment difficulties upon graduation. Therefore, there was no research on the problem of employment difficulties of college students in China for a long time before. In the second stage, with the development of the market economy and higher education enrolment expansion, the enrolment rate and total enrolments in higher education increased dramatically, leading to employment difficulties, which received widespread attention from the public. It was only at the end of the 20th century and the beginning of the 21st century that the employment difficulty of college graduates in China started to present itself (C. F. Zhang et al., 2020), which caused

Chinese experts and scholars to begin to study and discuss the topic of college students' employability as the problem became increasingly serious.

Studies on college student's employment in China have been conducted mainly from three perspectives, namely labour market segmentation and supply and demand, the education system and graduates themselves. Specifically, from the perspective of labour market segmentation and supply and demand. Lai (2001) points out that the existence of serious market segmentation in the labour market is the cause of the current employment difficulty for graduates in China. Yao and Sheng (2006) argue that the oversupply of college students in China is only part of the story. He holds that in terms of quantity, the supply of college students is indeed excessive; but in terms of quality, the supply of college students is still very insufficient. Furthermore, the quality of some graduates seriously falls short of the market demand. Therefore, the imbalance between supply and demand is the reason for the employment difficulty of college students. Yao (2009) studied the employment of college students from the perspective of demand and identified the lack of market demand as the fundamental reason. So, he proposed to adjust the industrial structure and promote the development of the tertiary industry. From the perspective of the education system, scholars such as Ding (2003) believe that college education places too much emphasis on theoretical knowledge and neglects skills and practical research, resulting in a serious mismatch between the knowledge structure of Chinese college students and the skills required by society, thus leading to a mismatch between the education structure and the industrial structure and becoming the root cause of employment difficulty. From the perspective of graduates themselves, W. H. Xie and Wang (2001) argue that college students' qualities reflected in their own knowledge, skills and other aspects as well as their overly high employment expectations that are out of touch with reality are important reasons that affect their employment.

Most of the existing studies focus on college students' lack of employability (H. L. Zhu, 2021) and consider the lack of employability to be the main reason for employment failure (Huang, 2008; Wu et al., 2007). The research on college students' employability can be divided into two categories in terms of the scope of definition (Y. Chen, 2012): Under the first scope, college students' employability is regarded as a collection of various personal abilities related to their access to jobs. Thus, research falling into this scope studies college students' employability from the perspective of personal abilities related to access to jobs. Under the second scope, college students' employability is regarded as a collection of individual competencies related to obtaining a job, which also integrates external factors influencing the acquisition of a job. Research falling into this scope mainly combines individual attributes and

studies how college students acquire employability in line with the needs of enterprises under the influence of various external factors (such as the reputation of the schools they graduate from and labour market conditions). And this type of research focuses on college students' employment outcomes and their influencing factors.

X. M. Zheng (2002) argues that employability is a demand for abilities derived from the needs of the competitive employment market, formed by relying on school academic learning and comprehensive quality training, and it is the ability to realize self-worth in the social division of labour and to gather a variety of competencies. Z. Y. Xie (2005), who holds a similar view, believes that employability includes the abilities learned in school and those formed in work practice to meet the needs of jobs and promotion. He divides employability into basic abilities, professional abilities and differential abilities. W. D. Tian (2002) points out that employability needs to meet the basic abilities of the occupation as well as the special requirements. S. P. Zhao and Zhao (2004) suggest that employability is a comprehensive quality of occupational needs that is not limited to knowledge and skills but also includes such aspects as psychological characteristics, stress tolerance and personality.

Y. Wang (2005) divides employability into three parts: (1) basic abilities, which mainly refer to the abilities acquired through school training, such as logical deduction, theoretical knowledge, mathematical operations, information management and communication skills; (2) personal management abilities, which include aspects such as learning management, adaptability, responsibility and emotional management; (3) teamwork abilities, which mainly refer to teamwork with others. L. H. Zhang and Liu (2005) used a questionnaire to study the employability of college students in five areas: (1) ability of thinking; (2) social adaptation ability; (3) capacity of will; (4) social practice ability; and (5) job application ability.

Ren (2005) proposes that college students' employability is composed of three levels: (1) Basic level - basic abilities, including ability to adapt to the environment, teamwork, language expression, use of information technology, interpersonal communication and interaction, which are the basic conditions necessary to be able to integrate into the regular work environment; (2) Enhancement level - professional abilities, including the abilities to innovate, practice, operate, as well as analyse and solve problems, which are the necessary conditions for ensuring work sustainability and improve work performance; and (3) Orientation level - job search skills, including information gathering and processing ability, decision-making ability, presentation skills, and marketing skills, which are the key conditions for successfully matching one's abilities to the job requirements and achieving career goals on the basis of Levels (1) and (2) (Ren, 2005).

Many scholars unanimously hold that the employability of college students is a comprehensive ability rather than a single aspect of skills. For example, Z. Y. Fan et al. (2006) define employability as a combination of professional skills, learning skills, practical skills, psychological endurance and job-seeking ability. H. L. Zhang (2009) classifies employability skills in several categories: (1) basic skills: reading, writing and learning abilities; (2) professional skills: basic professional knowledge, computer application and innovation ability; (3) adaptability: problem solving ability, execution, self-control, and anti-frustration ability; (4) development ability: diligence and integrity, sense of responsibility and career planning; (5) communication ability: interpersonal communication, teamwork and team coordination. Y. Q. Yang and Fang (2012) and Ren (2005) share the same basic view that employability should consist of basic abilities, professional skills and job-seeking competencies and that it is the comprehensive ability needed to meet occupational needs.

A review of the existing literature reveals that employability is not simply about holding employment training sessions and organising job fairs to help graduates find jobs. More importantly, it is about equipping students with sustainable career development skills that will benefit them throughout their lives.

With the advancement of mass higher education, graduates' employment difficulty has become increasingly prominent and has attracted the key attention of people from all walks of life. Besides, the academic research on this topic has shifted to employability-related research instead of the traditional research on job opportunities. The existing research findings on employability have certain limitations: (1) the theoretical foundation of employability dimensions is not solid, and the relevant logical relationships are not clear; (2) the concepts of dimensions are not clearly defined. As a result, there are a variety of dimensions, which appear to be a perfect model that ignores the specific situation of different individuals; and (3) there is a lack of quantitative research on employability, and most of the existing studies focus on qualitative research. The above limitations have seriously affected the application of research results related to employability, resulting in research not being implemented into practice.

The present study draws on the definition of graduate employability and the Chinese Graduate Employability Scale (CGES) proposed by S. Z. Ma et al. (2012) in their paper entitled "The Employability Constructs of Chinese Undergraduates" published in 2012. S. Z. Ma et al. (2012) define employability as "the ability of college students to obtain their own satisfactory jobs through their own efforts after graduating from college and entering the workforce". This definition treats individual satisfaction as an employment outcome/performance. In other words, it emphasises the quality of employment. In addition, it emphasises the individual relativity of

employability or the individual differences in the human capital stock of graduates rather than the “perfect” model that emphasises the absolute quantity of employability. Finally, the definition emphasises the central role of individual effort, or individual human capital, in the employment process, so that it is not mistaken for employability due to the involvement of external factors such as family or parental social capital. Under this definition, S. Z. Ma et al. (2012) developed a CGES consisting of job-hunting skills, self-marketing skills and social skills. They validated the model with a large sample and attempted to identify the antecedents and outcome variables of employability to expand, extend and develop the findings and literature on graduate employability.

1.2 Research objectives

Given that the existing literature still has such problems as vague concepts and definitions, unclear dimensions and difficulty to validate the antecedents and outcome variables, this study has the following three main objectives: (1) to validate the reliability of the CGES proposed by S. Z. Ma et al. (2012) through a large sample; (2) to explore emotional intelligence as an antecedent of the said CGES; and (3) to test the association between Chinese graduates' employability and the employment outcomes, including the employment outcomes upon graduation and follow-up career development outcomes after graduation. Overall, the present study aims to empirically test the validity and applicability of the scale proposed by S. Z. Ma et al. (2012) as well as the association between employability and employment outcomes. In this way, the findings of this study will benefit career guidance and the development of students' abilities in higher education. The present study, as a systematic empirical study, will also enrich the literature on the topic of employability with its definition, measurement, antecedents and outcome variables.

1.3 Research questions

The present study is conducted from the perspective of human capital theory. Based on “The Employability Constructs of Chinese Undergraduates” by S. Z. Ma et al. (2012), the present thesis puts forward the following three questions for an in-depth study:

1. Given the dynamics in China's labour market and college student population, is CGES still reliable and valid in measuring the first employment of graduates after the scale has been published for ten years?

2. With the rapid development of technologies and digitalization in recent years, increasing jobs will get taken over by machines and humans need to leverage more on using social intelligence or emotional intelligence (Tegmark, 2017) To what extent is emotional intelligence associated with Chinese college graduates' employability?

3. To obtain solid evidence for future usage of CGES in developing college student's employability and understanding their employment and career outcomes, this study attempts to answer the following question: To what extent can CGES predict college students' employment outcomes upon graduation and career development outcomes after graduation?

1.4 Research methods

The present study employs questionnaire survey method and quantitative research methods to validate and empirically test the reliability and validity of the CGES. Specifically, two waves of data were gathered for the questionnaire survey.

1.4.1 Questionnaire survey

Questionnaires were distributed in two different time periods, respectively from June to July 2019 and from July to August 2021. The first questionnaire survey (Time 1 survey, referred to as "T1" below) was conducted among fresh graduates in 2019 with a focus on such variables as graduate employability, emotional intelligence and employment outcome. The second questionnaire survey (Time 2 survey, referred to as "T2" below) was conducted to explore the career development of T1 respondents two years after graduation as well as the relationship between college students' employability and career development variables.

1.4.2 Quantitative analysis

The present study used SPSS statistical software to conduct exploratory factor analysis (EFA), confirmatory factor analysis (CFA), analysis of variance (ANOVA) and regression analysis on the data collected.

1.5 Thesis structure

The present thesis consists of the following five chapters:

Chapter 1: Introduction. Research background, significance, objectives, questions and methods are put forward, and the thesis structure provided.

Chapter 2: Literature Review. Existing literature on graduate employability as well as on the relationship between employability and the antecedents of employability are reviewed.

Chapter 3: Research Design. The measurement of relevant constructs, data collection process and research methods are elaborated on.

Chapter 4: Results. Main findings of the present study are presented.

Chapter 5: Discussion and Conclusions. The findings of the present study are discussed, and conclusions drawn. The limitations of this study are pointed out, and suggestions for future research lighted upon.

Chapter 2: Literature Review

This chapter will provide a review of the concept of employability and existing studies on employability.

2.1 Employability

So far, there has not been a consensus in academia on the definition of employability (Fugate & Kinicki, 2008), and the concept was first introduced in the UK in the early 20th century. In the 1960s, Western authorities and scholars in the UK, Canada and the US began to study employability from theoretical and practical perspectives. It can be concluded from the existing literature that the existing research results mainly focus on the concept of employability, which can be summarized in three aspects: (1) The development of the concept of employability in foreign countries is divided into five stages in relation to the economic, political and global context and seven versions of operationalized definitions have formed. This is a dynamic evolutionary process, both interactive and dynamic. (2) As researchers, business operators and governments started to pay more attention to the conceptual scope of employability, particularly over the last decade after entering the 21st century, the conceptual model based on competency and the labour market has started to be widely used in the research on the concept of employability. (3) The concept of employability is defined based on the historical process and current status of conceptual models, with its influencing factors identified and categorized. Studies have been conducted to explore the analytical perspectives developed during the development of the concept of employability over the past 100 years, and the employability models and “employment quality” statistical framework proposed by government agencies in various countries have been introduced in the process (J. X. Shen, 2020).

The history of research on the concept of employability at home and abroad can be divided into five main stages: (1) The 1950s and the 1960s, when the concept of employability focused on an individual's ability to get hired, emphasizing the ability to be recognized by the employment unit; (2) the 1970s, when the focus of employability was on the factors associated with the price of hiring amid the supply and demand in the labour market. In this stage, employability is essentially an individual's knowledge and skills; (3) the 1980s, when the scope of research expanded from individual knowledge and skills to knowledge and skills that affect individuals' job outcomes, specifically including the influence of attitudes; (4) the 1990s, when

the research on overviews of employability gradually expanded to include the stimulating effects of the employment environment and policies; and (5) from 2000 to the present, when research has begun to focus on individuals' developmental factors. Despite the long history, research is still going on (J. G. Wang & Chu, 2021) and scholars have yet to obtain a clear and unambiguous definition of employability (Harvey, 2001).

2.1.1 The concept of employability

The Australian Education Council. Mayer Committee (1992) considers employability as a universal ability that is essential in different work environments and work patterns, not specific to a particular industry or job, and has the characteristics of universality of employment and can maximize the application of the knowledge and skills that workers have in the workplace. Table 2.1 below shows the history of research on the concept of employability in countries outside China (Ge, 2009).

Table 2.1 History of research on the concept of employability in countries outside China

Researcher(s) and year	Concept of employability
Howard (1995)	The skills possessed by individuals are related to the needs of the market and refer specifically to the ability to meet market demand.
Saterfiel and McLarty (1995)	The skills of workers to obtain and maintain jobs, including individuals' professional attitudes, professional habits, and industry knowledge and skills; employability is universal without distinction of occupation, and it can be developed rather than being innate.
Confederation of British Industry (CBI) (1998)	Similar to the definition given by Howard, employability refers to the ability individuals need to be competitive to meet market changes. It also includes individuals' potential abilities at work.
Harvey (1999)	Employability is considered a market-defined trait that is essential for future organizational effectiveness, rather than a specific ability.
Overtoom (2000)	Employability does not refer specifically to a particular skill, but rather to competencies that relate horizontally to all industries and vertically to all jobs.
The former UK Department for Education and Employment (DfEE) (Hillage & Pollard, 1998)	Employability is considered individuals' self-confidence, used to achieve and maintain employment in the labour market, and the ability to maximize an individual's occupational potential.
International Labour Organization (ILO) (2000)	Employability is the ability of an individual to get and keep a job, to progress in a job, and to cope with changes that arise in life.
Brown et al. (2003)	Employability is the relative opportunity to find and maintain different employment opportunities
Fugate and Ashforth (2003, August)	Employability is an ability to adapt to work, to adapt to multidimensional job content, and to equip individuals with the ability to access job opportunities.
Fugate et al. (2004)	Employability is the ability of the worker to maintain job opportunities within the employment unit and to seek and obtain new opportunities externally.

Many scholars have suggested that employability is related to labour market demand and the ability to enter the labour market. For example, Hillage and Pollard (1998) suggest that employability is the ability of individuals to have mobility and realize their self-potential in the labour market, emphasizing the ability to be mobile; Fugate et al. (2004) point out that employability is the ability to identify and realize internal and external employment opportunities during an employee's term of service, emphasizing the ability of identification and realization; Gaspersz and Ott (1996) emphasize employability and labour market demand as the matching of skills and expertise in demand with the employee himself/herself; Sanders and Grip (2003) regard employability as the ability of an individual to actively adapt to the external employment environment and remain attractive, and also includes the individual's willingness to actively adapt.

Pool and Sewell (2007) argue that employability is the ability to obtain and maintain employment opportunities. The Confederation of British Industry (CBI) (1998) suggests that individuals need to be competitive to meet market changes. In other words, individual competencies are related to market needs and individuals need to have the skills and knowledge required by the market and the ability to realize their potential at work. Anderson and Marshall (1999) elaborated that the core idea of employability is transferability, which is the ability to transfer the knowledge, skills, understanding and emotions of self-worth in different industries, environments and jobs. The International Labour Organization (ILO) (2000) proposed that employability is the ability of workers to obtain job opportunities, maintain job opportunities, and achieve career progression in order to adapt to changes in the work and life environment, and this definition emphasizes the ability to adapt to changes in the work environment. The former UK Department for Education and Employment (DFEE) considered employability an individual self-confidence used to achieve and maintain self-employment in the labour market and the ability to achieve career potential. Overtoom (2000) analysed employability both horizontally and vertically, arguing that employability does not specifically refer to a particular skill, but is an ability to relate to all industries horizontally and to all jobs vertically. Fugate et al. (2004) focus on the correlation between employability and three dimensions, namely individual occupational identity, external human organization and individual adaptability, arguing that employability is the adaptability of the individual employee to take advantage of occupational opportunities to realize his or her potential within the content of the job as well as inside and outside the organization. Rothwell and Arnold (2007) argue that employability focuses on the ability of the employed person to access a career opportunity and to maintain it.

Employability analysis as a research method has played a non-negligible role in the analysis of job market policies in Europe and the US and has been extensively applied to the study of college students' employment since the 1990s. In foreign countries, there is a heavy emphasis on developing the employability of college students to enable them to cope with the changing and complex demands of today's workplace (Andrews & Higson, 2008). As an important part of the quality of higher education, "employability" is regarded as the core orientation of talent training in higher education in developed countries such as the UK and the US. Specifically, the strategic goal of education in the UK education sector is the cultivation of college students' employability, and its education design, including curriculum and professional design, is aimed at supporting the cultivation of employability, so as to ensure that college students can systematically develop their employability through learning, training, career guidance, and internships in the course of receiving higher education (Z. X. Hu, 2015); in comparison, higher education in the US regards college students as the core, prioritizes the cultivation of students' employability, and adheres to the combination of general education and professional education, integration of teaching, internship and research, as well as merge of science and technology with and people-oriented cultivation (F. Wang, 2012). Higher education in the US is characterized by the integration of college students' employability cultivation with college curriculum learning, consideration of college students' adaptation to the social environment as the goal of cultivation, emphasis on the training mode of the combination of theoretical knowledge and hands-on ability in social practice, and the formation of employability in the learning process (J. T. Chen, 2012).

2.1.2 History of research on the concept of employability in China

The concept of employability was proposed in response to the unbalanced supply and demand in the labour market caused by the economic and social development, resulting in a mismatch between the workforce and employment units. Its background also reflects the fact that changes in the focus of the labour market with social development will lead to changes in the connotation of employability. A review of existing studies on employability in China shows that the concept of employability is classified according to the core of employment and employability research and that there are four research stages.

(1) The first stage refers to the period between 1989 and 1993 with a focus on workers' ability to work. During this period, China's labour market had the following characteristics: school graduates (including mainly general secondary education students) continued to enter

the workforce, while a large number of rural workers entered cities and towns, resulting in an adequate supply of labour; in the job market, the economic reform and economic contraction led to a reduction in the number of jobs, and the shutdown of enterprises caused by the economic reform further worsened the employment situation, resulting in an inadequate supply at the market end. The unbalanced supply and demand relationship in the labour market led to increased employment difficulty and deteriorated employment environment. During this stage, local governments added employability indicators in the local yearbooks to reflect the employment status.

(2) The second stage, which focused on labour skills, spanned from 1994 to 1996. When the employment conflict increased in the first stage, the government adopted a model of increasing the number of jobs in shops, government departments and other units in order to solve the employment problem and substituted loss of employment opportunities in other areas with employment opportunities in these units to increase the employment rate. However, most of the employees under this package were not competent for professional and technical positions as they had only received secondary education and lacked professional skills training. This phenomenon attracted the attention of many scholars, and a secondary education reform program was put forward later. The result of the reform program was the emergence of secondary vocational education and improved employment skills of secondary vocational education graduates (A. Q. Fan, 1984). The objective of vocational education schools was to develop students' employability, and the penetration of vocational education into secondary education led to the formation of secondary vocational education. In the meantime, local governments also began to pay attention to the development of skills for those who were not yet employed and those who had difficulties finding jobs to improve their employability. The year 1996 saw the introduction of the pilot vocational training group, with comprehensive vocational training bases established in many parts of the country (A, 1996). Besides, the Labour Law was promulgated, which also clearly stipulated the contents of vocational training and provided detailed regulations on its purpose, role, social status, development path, and development measures, ensuring the operation of vocational training under the protection of law. In 1996, China's then Minister of Labour introduced a preparatory system in the labour market to improve the employability of young people who had graduated from high school and had not been able to enter university, so that they could receive vocational training and guidance for one to three years.

(3) The third stage, covering the period from 1997 to 2000, focused on ideological quality. The consideration of ideological quality in the concept of employability can be traced back to

the research carried out by L. H. Zhang (1995), whose research results pointed out that the ability of individuals to adapt to the occupational needs of society is employability, including not only traditional knowledge and skills, but also ideological quality. By 1997, many scholars had also proposed that it was not feasible to rely solely on employment skills training to solve the problem of re-employment of the unemployed, and that coordinated development of the social economy and employment growth at the macro level as well as the simultaneous cultivation of individual employment concepts and skills at the individual level were both important measures to fundamentally solve the employment problem. In the process of solving the employment problem, the outdated employment model of guaranteed job assignments in the planned economy era had become a serious obstacle. On the one hand, the jobseekers were obsessed with jobs with good compensation packages, good conditions and few responsibilities, and they were unwilling to engage in jobs that they deemed not comfortable enough for them because of their high hopes for immediate employment opportunities. Due to the lack of correct values, these jobseekers would rather be laid off than accept the so-called undignified jobs. In this period, many scholars in China proposed the cultivation of ideas in addition to the traditional re-employment knowledge and skills training to cultivate the self-sufficiency and self-improvement ability, social adaptability, individual competitiveness, enterprising spirit, and social market competitiveness of the jobseekers to improve their competitiveness (Deng, 1998). On the other hand, the unemployed themselves had negative attitudes. So, in addition to the training of knowledge and skills, the guidance of mentality was added to re-employment skills training, and it emphasized the cultivation of mentality and awareness so as to help the jobseekers form a positive mentality (Tong, 1997). In this context, “three certificates and one ability”, which referred to academic graduation certificate, skill level certificate, computer ability certificate and English proficiency, were added to the content of vocational skills (X. B. Zhu & Tong, 1998). In the third stage, the connotation of ideological and attitude training was added to the content of vocational skills from the second stage, and based on this background, some scholars believed that quality education should be vigorously developed; other scholars had also proposed the concept of lifelong education and the implementation of continuing education in the lifelong journey of workers. Both quality education and continuing education were put forward with the purpose of improving the employability of workers to improve their competitiveness.

(4) The fourth stage, which focused on competencies as job security for workers, covers the period from 2001 to 2005. Before the third stage, employability mostly referred to the ability of the employed or the unemployed to obtain a job, and many scholars directly considered it

similar to the concepts of job adaptability, work ability and entrepreneurial ability. China's accession to the WTO in 2001 brought more new ideas and new connotations to employability in China. X. L. Yu (2001) added the connotation of sustainability to the concept of employability. Specifically, sustained employability can improve the adaptability of the employed to the changes in the external environment, reduce the maladjustment and sense of crisis caused by the changes in the external environment, and improve the development of their self-potential. Sustained employability needs to be jointly cultivated by the three parties, namely government, employers and employees, of which employees' individual self-learning initiative is a very important factor. Meanwhile, many scholars further pointed out the important role of on-the-job training system and lifelong education system in the cultivation of employability and emphasized that workers should meet new requirements by developing such abilities as global awareness, lifelong learning ability, ability to adapt to rapid social changes, and teamwork ability. In 1999, the college enrolment expansion policy in China's education sector rapidly increased the number of college students, which also led to college students becoming a new subject of employability research. By 2002, scholars and society increased the research on the employment of college students, pointing out that the knowledge cultivated by colleges and universities does not equal employability, and the education circle should not overly emphasise certificates at the expense of neglecting actual employability. In 2003, the Third Plenary Session of the 16th Central Committee put forward that measures should be taken "to enhance the employability, innovation ability and entrepreneurial ability of Chinese citizens in an effort to transform the population pressure into human resource advantages".

2.1.3 Existing studies in China on the concept of college students' employability

A search in Chinese Social Sciences Citation Index (CSSCI) and Peking University Library Chinese Core Journals relying on the CNKI database with "colleges students'/graduates' employability" as keywords shows 42 papers published in core journals. Seen from the trend of publications on college students' employability, the first core journal paper was published in 1998; the number of core journal papers published from 1998 to 2006 remained small; the number of published core journal papers peaked in the period from 2006 to 2014; and since 2015, the number of newly published core journal papers has also been small. This trend suggests that there are increasing less researchers on college students' employability. From another perspective, it also shows that core journals have been raising their requirements.

Seen from the distribution of research topics on college students' employability, Chinese researchers mainly focus on studying college students' employability enhancement, employability training, empirical research, core competitiveness in employment, and career planning.

Table 2.2 shows the statistics of Chinese scholars' research on the concept of college students' employability (S. Z. Xu & Wen, 2021). Specifically, Chinese scholars mostly study college students' employability from the perspectives of realising college students' employment after graduation as well as the comprehensive abilities of obtaining jobs, keeping jobs, and realizing self-worth.

Table 2.2 Definitions of the concept of college students' employability by Chinese scholars

Researcher(s) and year	Definition of employability	Distinction
X. M. Zheng (2002)	Employability is the abilities of college students to secure their own employment, meet the needs of society and demonstrate their self-worth in social activities, acquired in institutions of higher learning. Such abilities come from school knowledge and skills development and overall quality exercise.	Achieving employment
W. D. Tian (2002)	Employability is the ability of college students to obtain job opportunities, maintain job stability, and achieve career advancement after school and practical training.	Achieving employment
Xiong and Huang (2005)	Employability refers to the ability to obtain job opportunities through job applications.	Achieving employment
Y. J. Xiao (2009)	Employability is not a skill but comprehensive abilities, which are abilities of college students to obtain employment opportunities, keep their jobs, and achieve career advancement. It encompasses a wide range of knowledge and skills, comprehension and individual qualities of the employed person.	Comprehensive abilities
Lei and Yu (2005)	Employability refers to the basic and specific competencies necessary for performing job positions competently.	Job competency
Z. Y. Xie (2005)	Employability refers to a combination of work-related abilities that encompass a range of knowledge skills, attitudes, psychological resilience, and comprehension.	Comprehensive abilities
J. Q. Zhang (2016)	Employability is the ability of an individual to be competent in a job position or multiple jobs. Considering the special nature of college campus compared to job positions in the labour market, college students' employability also becomes the ability to acquire jobs and be competent in their jobs when they enter the workforce.	Job competency
J. K. Li (2012)	College students' employability refers to the comprehensive abilities formed by a series of employment concepts, self-awareness, knowledge & skills, and individual qualities. It is a collection of elements that enable college students to realize employment, adapt to work, and be competent for job requirements.	Comprehensive abilities
M. Zhou et al. (2016)	Employability is the ability of the employed person to achieve career aspirations and values by developing individual self-potential and to adapt to a highly competitive occupational environment. It is characterized by a high degree of adaptability	Comprehensive abilities

Researcher(s) and year	Definition of employability	Distinction
	and flexibility and is a synthesis of multiple occupation-related ability factors.	
X. Jin (2012)	College students' employability is a synthesis of knowledge, skills and individual qualities to obtain a job, keep a job, and achieve career advancement.	Comprehensive abilities
Liang (2014)	College students' employability is a collection of knowledge, skills and individual qualities that are acquired through knowledge learning and skill practice in colleges and universities to meet the needs of the occupational environment in society and achieve employment.	Comprehensive abilities
C. Y. Tian (2013)	College students' employability refers to the comprehensive abilities that encompasses employment planning, achieving self-employment, meeting the needs of the occupational environment in society and the needs of individual development, with particular reference to the characteristics of entering the workforce.	Comprehensive abilities
S. Z. Ma et al. (2012)	College student employability is defined as the ability of college students to enter the workforce and obtain a satisfactory job through the study of knowledge and skills in college.	Obtaining jobs
Y. X. Ma et al. (2020)	College students' employability refers to the ability of college students to meet the needs of the occupational environment in society through the learning of knowledge and skills as well as practice in college and to be able to optimize their own employment environment.	Obtaining jobs

Jiang (2011) defines employability as a high-level ability to flexibly adapt to changes in the external environment, where individuals rely on the highly adaptable knowledge and skills they possess to find their own positions and not lag behind environmental changes when changes occur in their job positions, external occupational environment and social environment. Y. Wang (2005) considers employability a complex of individual and employment-friendly competencies with a dynamic change process, highlighting dynamic changes. A. X. Tao (2005) regards employability as the ability to obtain a self-satisfying job and to adapt to changes in the external environment to make changes that are conducive to meeting job demands. Shao and Hu (2005) deem employability the ability of the employed person to obtain the possibility of job opportunities. X. L. Liu (2005) defines college students' employability as the ability of college students to obtain self-satisfying positions through recruitment, meet job demands, and adapt to changes in external social development formed through college training during their college years. Xiang (2007) regards colleges students' employability as a collection of multiple abilities and holds that it has the following distinctive characteristics: targeted at the specific group of college students, the development nature of a dynamic change process, and a comprehensive collection of multiple abilities. Z. W. Chen et al. (2008) consider employability a kind of skill that is applicable to all positions and all industries and has a dominant position

in the work. In the course of career development, college students need to have some general abilities required by other positions and industries in addition to the basic abilities necessary for existing positions. Only under this premise can they actively adapt to changes in the external employment environment and get their employment needs met.

The definition of employability in the present thesis differs from existing definitions in the following aspects: (1) A focus on the quality of employment. Most existing studies on college students' employability emphasize the aspect of getting a job, taking the success of getting a job as the performance of employability while ignoring the quality of employment. College students' employment will be subject to their own or external pressure such as the pressure from their families and schools, leading to forced employment, which subsequently results in low quality of employment and poor job stability. Therefore, it is necessary to take graduates' degree of satisfaction with their jobs as a comprehensive indicator to evaluate employability. So, the incorporation of individual satisfaction into employment performance evaluation in this thesis can make the definition of employability more scientific, more rigorous and more easily measured by data analysis. (2) An emphasis on individuality. There is variability in labour market demand, and there is also variability in the human capital of individual college students. Human capital can be maximized if the needs and abilities of both sides are effectively matched to the greatest extent. This has greater significance and guiding value compared to quantitative ability indicators in absolute terms. Therefore, it is necessary to pay attention to individual differences. (3) Due consideration of individuals' efforts. Although the existing employment of college students is completely in a labour market environment characterized by market competition and market freedom, individuals' efforts need to be emphasized in order to exclude the interference of external factors and make the study of human capital ability of college students possible given the fact that individuals' social relations play a non-negligible role in their employment outcomes as China is a society of etiquette and favour.

Based on the above elaboration, the present thesis adopts the human capital theory to study college students' employability, arguing that college students' employment in the labour market environment is the realization of human capital value, and employability is the ability to realize human capital value. This study makes a breakthrough by emphasizing individuals' efforts and employment quality on the basis of the existing theoretical studies on employability to improve its relevance and operability, expand and enrich human capital theory, and promote the development of employability theory (S. Z. Ma et al., 2012). As pointed by X. H. Yang (2012), although existing studies on employability differ from each other in certain ways, there are still some commonalities: first, college students' employability is a comprehensive ability. This is

evidenced in Table 2.3 where many scholars define employability as a collection of multiple abilities; second, the development of existing studies on college students' employability is a positive contribution to employability.

Table 2.3 Statistics on the degree of attention to qualities and abilities in enterprises' campus recruitment measured by percentages

Item	Very high attention (%)	High attention (%)	Neither high nor low (%)	Low attention (%)	Very low attention (%)
Basic professional knowledge	51.3	41.8	6.3	0.6	/
Academic performance	13.9	67.7	17.7	/	0.7
School Brand	13.4	49.0	31.8	4.5	1.3
Education level	15.1	48.7	32.2	2.6	1.4
Morals and ethics	59.7	36.5	3.8	/	/
Flexibility	51.9	45.6	2.5	/	/
Innovation capacity	59.5	35.4	5.1	/	/
Sense of responsibility	77.8	21.5	0.7	/	
Teamwork	69.3	30	0.6	/	/
Learning ability	56.3	40.5	3.2		/
Professional dedication	71.3	28.1	0.6	/	/

Source: M. Q. Wang (2006)

2.1.4 Problems with the employability of college students in China

Based on the data of the survey and research on the employment standards of enterprises from the *Chinese Students' Employment Journal* (see Table 2.3), the mismatch between the standards of enterprises' required abilities and college students' employability is the main reason for enterprises' "labour shortage" and "recruitment difficulty". According to the analysis of the degree of attention to qualities and abilities in enterprises' campus recruitment, more than 50% of the enterprises say they attach great importance to graduates' professional knowledge, ideological quality, environmental resilience, creativity, sense of responsibility and attitude, teamwork, learning ability, and professional dedication. In comparison, academic performance, school brand and education level are of secondary importance. In the survey on the employability of college students, the percentages of college students who think they have good teamwork skills, practical skills, innovation ability, organizing ability & leadership, and professional basic knowledge are 53.33%, 50%, 34.22%, 30.67% and 53.11%, respectively, and these figures are far from meeting enterprises' requirements for abilities. This shows that although almost more than half of the college students have received theoretical knowledge education, they have not mastered solid professional skills, and thus have little chance of

passing the professional tests of enterprises; besides, only a small number of college students have the practical skills such as cooperation and innovation that can meet the requirements of enterprises. Therefore, college students often find it difficult to find jobs to their satisfaction, and most of them tend to be eliminated in the comprehensive quality assessment. Enterprises in turn have difficulties in recruiting sufficient talents. L. F. Liu and Qu (2007) introduced expectancy theory in the study of graduates' employment and pointed out the following contradictions between enterprises and graduates: the contradiction between enterprises' expectation and graduates' actual possession in terms of hands-on skills and professional knowledge as well as the contradiction between enterprises' actual offer and graduates' expectation in terms of compensation package.

For a long time, labour cost in China remained low, and many labour-intensive enterprises relied on reducing labour cost to generate profits. But such a profit model will inevitably be threatened by labour price fluctuations. The low technical difficulty of primary processing products and the low difficulty of imitation caused the profits of these products to be extremely low and the competition to be fierce. So, it is inevitable to reduce labour cost expenses to improve enterprise profits; however, the improved compensation packages to the workforce in the context of social development also led to the disappearance of the labour cost control advantage of labour-intensive enterprises, and the chain of enterprises with low-end technologies is on the verge of bankruptcy. The "labour shortage" among low-end manufacturing enterprises caused by the poor compensation packages and bankruptcy crisis was not caused by imbalanced supply and demand in the low-end manufacturing industry. Instead, it is a manifestation of the serious imbalance, dislocation and deformity in the social, educational and economic structures in China's transition and development stage. Facing the major context of "labour shortage", some enterprises have adopted the strategy of relocating their factories to other places. Specifically, following the national policy of supporting and encouraging the development of western China and the rural areas, some enterprises transferred their factory sites to less developed regions with relatively abundant and cheap labour resources. Some also relocated their factories to foreign countries where there are abundant labour supply and relatively backward industrial structure. The "labour shortage" is an inevitable product of the excessive reliance on cheap labour for economic development, which indicates that the business model of enterprises relying solely on cheap labour for profits is approaching its limit. The "labour shortage" has given two clear signals in terms of labour market demand: First, in terms of quantity, there is a huge shortage of skilled workers; second, in terms of quality, a large number of skilled workers need to adapt to the needs of market economy development. If

enterprises want to truly solve the problem of labour shortage and win the “battle” for survival, they essentially need to follow the general trend of economic transformation and development by adjusting and upgrading industrial technologies, transforming the economic development thinking, and improving the production efficiency of each unit of labour. Due to the quiet transformation of the market, enterprises have also shifted their focus of competition from “products” to “people”. In order to find more suitable talents, some enterprises have started to take initiative to alleviate the pressure of labour shortage through model innovation.

At the current stage, China is undergoing economic restructuring, and it remains an underdeveloped country despite being the world's largest developing country. Against the background of a non-negligible economic level and social system, the labour market in China is not characterized by a complete market economy system nor a complete planned economy system as in other countries but exists as a heterogeneous sub-market. Currently, China's labour market is predominantly featured by severe segmentations among regions, between urban and rural areas, and among different sectors. The existing labour market can be roughly divided into the following two categories: one is the primary market, characterized by good compensation packages, excellent work environments, high job stability, good social security, and abundant opportunities for training and promotion; the opposite is the secondary market, characterized by poor compensation packages, poor work environments, low job stability or high turnover, and lack of opportunities for training and promotion. The prerequisite for free flow is to overcome the obstacles to the flow of labour, and the obstacles to the flow of labour is the segmentation system. As mentioned before, China is now characterized by serious segmentations among regions, between urban and rural areas, which will inevitably lead to higher flow costs and lower efficiency. The high cost and low efficiency of labour flow will lead to a lower possibility of labour flow from the secondary labour market to the primary market. Subsequently, the primary market and the secondary market will be more fixed in their own ways, posting higher requirements for graduates' first jobs. To reduce the risk of fixed market patterns, graduates only increase their abilities to be qualified for the better compensation packages offered by enterprises or reduce the likelihood of choosing the secondary labour market. As a result, they are more likely to prefer economically developed and large cities to the exclusion of less developed areas upon graduation.

Applying the theoretical answers of the study of college students' employability to the practice of talent training in higher education institutions can meet not only the needs of society or employers for talents and thus for higher education but also the needs of college students for higher education for the purpose of employment. This is because in the context of mass higher

education, the increase of employment opportunities for workers is the main reason for the implementation of higher education, which needs to be realized by the ability of the talent training system of colleges and universities to improve the needs of workers in future career development. Employers of all kinds of talents in the society also need higher education institutions to be able to provide them with talents that meet the needs of their job positions. College students' employability is the ability of college students to find job opportunities and unleash their potential in their careers and is directly related to careers. So, the development of graduates' employability can meet the needs of the stakeholders of higher education institutions.

2.2 College students' employability from the perspectives of different theories

2.2.1 Human capital theory

Human capital theory emphasizes the important role of human resources in economic and social development and considers that human capital, among the factors of production, occupies a more important position in socio-economic development than physical capital and facilitates increased awareness of human capital. With the advent of the knowledge-based economy, various countries have reached a unified understanding of the role of human capital in the enhancement of national strength and competitiveness as well as the role of individuals in the enhancement of market competitiveness, both pointing to human capital. From the perspective of human capital theory, the study on the enhancement of college students' employability is in line with the framework of human capital theory. Besides, it can also significantly facilitate the exploration of the mechanism to optimize employability structure of college students from the perspective of investment returns.

Human capital theory was established by Theodore William Schultz in the 1960s, who pointed out education plays a positive role in social production, that proper education and training can lead to a wide range of improvements in labour skills and productivity, and that improvements in labour skills can also lead to an increase in job compensation and the ability to change jobs. In other words, human capital, different from conventional physical capital, is a form of capital expressed in terms of human knowledge, skills, experience, ideas, and health. Schultz (1961) also proposed that education is the source of human capital, and that education

not only serves to improve cultural goals but also promotes the recipients' ability to acquire competence and manage their affairs.

According to the interpretation by Schultz (1961), the relationship between human capital investment and competencies lies in the fact that human capital essentially consists of competencies that are formed through self-investment and that it is essentially a competency that can be acquired by planned and purposeful investment rather than an innate ability. However, investment in human capital refers to productive investment. Besides, according to human capital theory, production is equal to education, and investment in production is equal to investment in education, meaning the development or increase of human capital. The role of higher education in human capital investment is to enhance the level of competence of the workforce after higher education, from a workforce capable of achieving simple labour to a high-level workforce engaged in advanced labour. In this process, conventional labour resources are transformed into high-quality human capital, and the value of high-quality human capital generates high productivity and productive efficiency. Economic globalization in the 21st century intensifies the investment of higher education in human capital. The competitive advantages of graduates are reflected in their ability to apply knowledge and technology rather than traditional abstract knowledge, and the value of human capital is also expressed in the application of knowledge and technology. Therefore, acquiring the ability to apply is the basis for maintaining an advantage in the current fierce competition for human capital, and the purpose of higher education should be to cultivate high-level knowledge and technology-applied human capital that matches the current industry, otherwise it is a failure.

The American economist Becker (1975) first introduced the concept of "human capital", proposing that the investment that can meet the increase in individual-related resources and will have a positive effect on later income and consumption is human capital investment, including education expenditures, health care maintenance cost, as well as expenditures on domestic and foreign labour circulation. Socio-economic growth requires an increase in human capital, which is the capital associated with people consisting of the sum of expenditures that require workers to participate in education and training as well as the opportunity cost of being educated. It is the sum of the equivalent amount of knowledge and skills, health qualities and ideas that workers have. Individuals' rate of return is positively associated with age and with the level of education received. In other words, the higher the level of education received, the greater the capital and benefits gained now and to be gained in the future.

Human capital is a kind of capital formed by a combination of people's knowledge, technology and production capacity, which can be demonstrated in terms of both the quantity

and quality of workers. The core view of human capital theory is that human capital and economic growth have a strong correlation. According to this view, the need for continuous economic development requires continuous accumulation of human capital, and human capital is the driving force of economic growth. Enhanced quality of workers is one of the ways of human capital formation, the essence of which lies in higher education, which can effectively improve the learning ability of workers and achieve increased productivity. Therefore, investment in education is the most important way to improve the quality of human capital.

The establishment of modern human capital theory is marked by the successful construction of the microeconomic foundation of human capital theory by Becker (1975). Its main ideas are as follows: (1) human capital is composed of human's own knowledge and skills, experience, health, qualifications, and other comprehensive abilities, and it is the embodiment of human abilities and qualities; (2) abilities and qualities need to be formed through the path of human capital investment. Specifically, the incremental resources obtained through human investment are human capital, and the necessary condition for increasing value retention and value is to invest in human capital, which is expressed in monetary form as increased expenditure on education, training and labour migration. (3) human capital focuses on the intrinsic quality of the workforce and its labour, with differences in intrinsic quality related to the level of education received by the workforce before employment and the vocational skills training acquired after employment; (4) the intrinsic properties of human capital investment have the broad meaning of capital, including profitability and value addition, and the quality of human capital can be reflected by the value of individual human capital.

The human capital theory is highly applicable to the study of college students' employability, and human capital is an important factor influencing college students' job search results, compensation package and job satisfaction upon graduation. With the gradual improvement of the employment market, Chinese college graduates' employability has been increasing, and college students with high human capital value are bound to bring a better return on investment in education in the labour market competition.

Among human capital investments, education has the property of long-term investment, and the government, enterprises and individuals can all be investors despite differences in the amount and manners of investment. The present thesis only analyses the human capital investment made by individuals. Individuals who invest in education are bound to bear some costs while generating benefits, and the cost of individual investment in higher education means that education investment cannot be made for the entire workforce. Therefore, it is safe to distinguish that college students are the part of workforce suitable for education investment,

and they have a high human capital content. In comparison, little or no education investment is made for migrant workers, and they have low human capital content. Thus, two different categories of workers with different human capital content will inevitably face different employment situations.

In the globalized economy of the 21st century, the competition in the world economy, culture and politics is gradually intensifying, and the competition in each field is essentially a competition of human resources. An important aspect of gaining a competitive advantage in the global competitive arena is the need for quality higher education to produce excellent professionals of all kinds. The widespread application of information technology and rapid development of the knowledge-based economy have intensified market competition. In response, enterprises have changed their structure to become more flexible and flatter, with more modern and flexible features such as information orientation, virtualization and decentralization. The traditional hierarchical system no longer fits. Enterprises' employment system has also changed, from permanent employment to flexible employment methods such as labour dispatch, short-term employment and temporary employment. In the trend of globalization characterized by increasingly fierce competition, enterprises need to improve the adaptability of their organizational structure in order to gain a stronger competitive advantage to ensure their development.

Since its inception, education economics, as the most central component of human capital theory, has been recognized by many countries, which have introduced policies to increase investment in education and provide better access to education in order to improve the educational attainment of society (J. Wen, 2018). There is a consensus that investment in education generates economic benefits, and it is believed that education can improve the cognitive level and labour efficiency of the nation to obtain the win-win situation of economic growth and increase in national income. The theoretical view of human capital is that education is one of the elements of human capital investment and its profitability is higher compared to other investments, and the benefits of individual income, labour productivity and health of workers are obtained through access to education (S. Z. Ma et al., 2012). The mass education model in the 21st century also makes higher education a basic requirement to obtain and be competent for employment opportunities in the labour market. The current education model has also undergone a major change; higher education training during the elite education period focused on students' professional knowledge and skills (mainly job-related knowledge and skills), while general abilities (abilities that can be applied to all jobs and industries other than professional knowledge and skills) were acquired after students entered the workforce; as

higher education entered the mass education stage, merely training students' professional knowledge and skills could not enable students to gain recognition from employers or to successfully apply their human capital to the workplace.

Based on human capital theory, the employability of college students after graduation is both an important parameter for the performance of human capital value and a key link for cashing in the return on investment after obtaining higher education training. Employability is an individual's ability to obtain employment opportunities, maintain jobs and achieve career advancement, and is a collection of the comprehensive abilities such as knowledge, quality, experience, and skills possessed by workers, and the level of comprehensive abilities directly determines the level of workers' employability. Investment in human capital can increase workers' employment competitiveness and profitability by increasing their employability.

2.2.2 Job search theory

Job search theory was developed from search theory, which was proposed by Stigler (1961) and McCall (1970) for application to market information incompleteness scenarios, by setting up behavioural assumptions and decision rules to derive logical outcomes. The initial model of search theory was developed to study the initial job search behaviour of workers in the labour market. Stigler (1961) justified the conclusion of searching for low prices in his paper entitled "The Economics of Information", arguing that consumers' search stops only when the cost of search matches the expected marginal rewards. Later, Stigler (1962) extended search theory to the labour market and proposed a similar conclusion to that of consumers, that the difficulty of search is proportional to wages. But he did not consider unemployment, nor did he delve into the problem of firms.

Based on the useful results of search theory in the field of job match, Phelps (1970) established the theory of job search in 1970. The core elements of job search theory include: (1) incomplete information exists in the labour market; (2) the pay for the value of labour provided by workers changes in response to changes in the employment units or enterprises; (3) the acquisition of market information entails the cost of time and effort; (4) the expected pay of workers comes from the comparison of marginal costs and expected benefits of search; (5) the search process is determined by the comparison of the pay given by the employment unit and the worker's expected pay. In job search theory, first-time entrants in the labour market are bound to increase their search time to obtain a job due to the lack of information, so this part of workers may suffer unemployment due to search failure; besides, the theory holds that it is

reasonable for workers to search for well-paid jobs under temporary unemployment, that the probability of searching for well-paid jobs is positively related to the search time, and that searching for well-paid jobs under temporary unemployment is beneficial to individuals' long-term career development as well as income and benefits. Therefore, individuals may choose voluntary unemployment in the case of incomplete information.

Satisfying the premise of different compensation packages offered by different firms, the variables are identified based on the theory put forward by Stigler (1962): the first variable is the sample firms i.e. objects with reference value; and the second variable is search density and breadth, acceptance of the job with the maximum value of the difference between the highest compensation package obtained during the search and the search costs with the maximum of the difference between search benefits and search costs as the optimal solution. In the case of the following assumptions: the distribution of compensation packages offered by firms is given; jobseekers have no information of the compensation packages offered by different firms; the search cost remains constant; and jobseekers select the job with the best compensation package in the search sample. Based on the above assumptions, the number of searches decreases when the search cost increases; and the number of searches decreases when the distribution of compensation packages offered by firms decreases. If jobseekers increase the number of searches in a certain time period, their chances of obtaining a better compensation package will increase, and search activity stops when the compensation package obtained meets the desired benefits.

On the premise of the above logical thinking, McKenna (1985) developed a sequential search model that shows whether job search behaviour continues when jobseekers determine ideal earnings by the comparison of the search earnings from currently obtained compensation packages with ideal earnings. Workers' ideal gain initially comes from individual subjectivity and is also related to elements of the labour market such as their extra-wage income, given probability of job offer, turnover rate in the field of work and stability in the field of work. The length of a worker's unemployment period is associated with net earnings during that period, and the duration of unemployment increases when earnings increase, but the duration of unemployment is not absolutely correlated with the worker's situation. The advantages of the sequential search model include expansion of search time and space to such search activities as unemployment and its core idea of sequential statistical decision agency theory. Compared with the traditional fixed-sample theory, sequential search model is more adaptable, so it has become one of the most widely used theories. The models in the initial stage of job search theory development were mostly proposed under the premise of wage dispersion and exogenous

compensation provision, such as sequential search model, Albrecht-Axell model and general equilibrium model (Van den Berg & Ridder, 1998). Assuming there are individual differences among jobseekers and there is no on-the-job search in the theory, job search studies can be turned into general equilibrium studies, which are more intuitive. With the development of theory, the introduction of frictional costs or searching cost in theoretical models became a widespread practice. Besides, the assumptions changed to wage endogenous assumptions, and on-the-job search was included into some models, such as the van den Berg-Ridder model, Burdett-Mortensen model and van den Berg model. The models were aimed at studying the ideal compensation packages with a given probability of job opportunities, estimating searching cost and forming predicted values of productivity, compensation packages and employment distribution among firms. With further research on job search theory, the development trend of extended models includes considering jobseekers' other factors besides wages such as work environment, job quality, job stability and old-age security, addition of non-steady state equilibrium to the steady-state equilibrium model, addition of conversion and searching costs to the theoretical model, and provision of on-the-job search and wage offer assumptions as endogenous assumptions. However, job search theory has been less applied in the research on college students' employment. Betts and Shkolnik (2000) found that college students take longer to obtain a job compared to the conventionally employed, that their search time is six months or more and male students take longer compared to female students, and that there are significant differences among countries.

The assumptions of the research on the causes of unemployment are that there is information deficiency in the labour market, and the final result of the search process is determined by both social environment elements and individual elements. Based on these two assumptions, the job search theory includes the following forms of unemployment: frictional unemployment, voluntary unemployment and search-related unemployment. In the model of job search theory, the change of social environment is closely related to the employment of workers. For example, industrial adjustment on the macro level will cause the expansion or shrinkage of related industry fields; the decrease of demanded jobs caused by the shrinkage of industry fields will lead to the increase of search difficulty of workers, resulting in the increase of social employment; the emergence of new industries will also lead to the increase of demanded jobs and the decrease of search difficulty of some workers, resulting in the improvement of employment environment; and individual factors play a key role in the search process of workers as individuals' education level, family environment, social relations,

information gathering ability, communication ability, and ability to predict jointly determine the ideal compensation package of workers and thus affect the chances of successful search.

2.2.3 Competency theory

The concept of “key competencies” was introduced by German economist Dieter Mertens in 1974. He proposed key competencies in addition to the conventional definition of professional knowledge and skills, pointing out that key competencies are not related to individuals' jobs or positions, but are indispensable and universal competencies outside of jobs and positions. Key competencies are universal, non-professional and transferable. The universality is reflected in the fact that a competence is applicable to all people and all circumstances, and key competencies can be acquired by anyone through exercise and learning and can be applied in any environment; non-professionalism refers to the fact that a competence is not a professional skill, is not related to the professional abilities and vocational skills possessed by individuals, and will not disappear or change with the changes of the occupational environment individuals are in; transferability is reflected in the fact that key competencies will be transferred with the changes of the occupational environment of individuals, and will not fade away. Transferability is reflected in the fact that key competencies can be transferred rather than faded as an individual's occupational environment changes, and that the practitioner can acquire new competencies based on existing knowledge and skills to respond to new environmental needs (Mertens, 1974).

The German word for key competence is “*schlüsselkompetenz*”, which contains the word “*schlüsse*” (key), meaning an ability to open any door. Therefore, the education circle in Germany considers that students need to acquire key competences in addition to their regular professional competencies aside from their study and exercises. First, professional competencies are related to job posts. Different job posts require different professional knowledge and skills, which are necessary prerequisites; second, key competencies are cross-disciplinary competencies that are critical in the actual work process of the practitioners. Based on the important role of key competencies in the work process, the German education circle focuses on the cultivation of students' key competencies, which mainly include four aspects: (1) individuals' personality, focusing on individuals' personality traits, including the ability to be independent, the ability to view things critically and the ability to focus; (2) adaptability to the external environment, formed on the basis of the ability to establish good social relations through communication with the outside world. Adaptability mainly refers to interpersonal

skills and the ability to complete cooperation, communication and teamwork with the outside world; (3) competence to solve and deal with problems, which mainly refers to the ability to independently use the professional and non-professional knowledge learned to form methods and procedures for solving problems; and (4) competence to apply knowledge, which refers to the ability to use one's own knowledge reserves and professionalism to flexibly apply to the actual complex work environment to identify, analyse and solve problems.

The concept of key competencies received high attention from countries such as the UK, the US and Australia the moment it was put forward. The core skills proposed in the UK in 1999 and professionally identified by the Qualification and Curriculum Authority (2008, January) as an approximation to the concept of key competencies include competencies in six aspects, namely collaboration and communication, application of number, information technology, working with others, improving own learning and performance, and problem solving. In 1991, the U.S. Department of Labour also put forward five workplace competencies in the report of the Secretary's Commission on Achieving Necessary Skills (1991, June): resource integration competence, which refers to the ability to use and allocate time wisely and to master such resources as information and manpower; interpersonal competence, which mainly refers to the ability to work with others; information processing skills, which emphasize the acquisition and use of information; systems analysis competence, which refer to the ability to understand complex inter-relationships; and technology application competence, which mainly refers to the ability to work with a variety of technologies. Later, the Secretary's Commission on Achieving Necessary Skills (1991, June) proposed again that workers should have relevant competencies such as teamwork, information acquisition, as well as knowledge and skill application, placing more emphasis on the primary nature of the non-professional key competencies. Australia's focus on students' key competencies is mainly reflected in education reform. To focus on cultivating students' key competencies, Australia has established a competency-based education system that focuses on the development of the following competencies: the competence to design, plan, organize and manage activities; the competence to collect, analyse, process and apply information; the competence to apply existing knowledge and skills to practical problems; the competence to use mathematical and logical thinking; and the competence to express one's ideas and exchange ideas with others; the competence to work in teams with others; and the competence to acquire new knowledge and skills and to use them (Smith, 2019).

The beginning of competency research was marked by the publication of McClelland's article entitled "Testing for Competence Rather Than for 'Intelligence'" in *American*

Psychologist in 1973. In this article, McClelland (1973) point out that traditional competency evaluation criteria are unable to respond to the complexities of real-world situations and performance assessments of mid- and high-level positions in employment units, and they are unfair for populations including minorities, female groups, as well as those with low social status and lower economic income levels. Traditional competency evaluation criteria include intelligence level assessment, occupational aptitude test and academic assessment. Then some sort of equivalence will be formed eventually based on various assessments. In response to the problems of traditional competency evaluation, McClelland (1973) focused on using individual traits for the performance outcome evaluation of certain jobs, thus forming the basic conceptual framework of competency. The research by McClelland (1973) defines competency as a set of professional motivation, values and world view, professional knowledge, skills in a certain field, and personality traits, which are quantifiable and can be acquired or improved through training and practice. Individuals with these characteristics can achieve significant results in professional activities and thus be distinguished from the mediocre. Following this, methods of measuring competency characteristics are found based on the differences between high performers and average performers, and the structure of the combination of characteristics constitutes a competency model suitable for a particular occupation.

The competency theory is based on the idea that a competency is a higher-level characteristic of an individual's ability to perform in a particular environment (including work environment, organizational environment and cultural place) and is used to distinguish between those who are highly productive and those who are mediocre in that environment. The competency an individual possesses does not refer to a particular skill but includes all characteristics that can be quantified and distinguished between those who are highly productive and those who are mediocre, including but are not limited to, knowledge reserve, professional skills, individuals' attitudes, individuals' world views and values, self-identification, thinking and motivation, and other characteristics (such as individuals' physical differences, information gathering and use).

According to the structure of the iceberg model of competencies (Spencer & Spencer, 1993), the model is divided into extrinsic qualities of knowledge and skills as well as intrinsic qualities consisting of attitudes or values, self-image, personal traits, and motivation. Extrinsic qualities are easy to quantify while intrinsic qualities are difficult to quantify but are determinants of individual behavioural performance. Based on the iceberg model of competencies, the engineering practice ability as well as employment and entrepreneurship ability of full-time

engineering masters belong to external competency characteristics, while the engineering professionalism belongs to internal competency characteristics.

The American Management Association (AMA) defines the concept of competency as an individual's knowledge and skills, professional motivation, individual image, and role in the professional and social environment significantly associated with career outcomes (Hayes, 1979). The AMA study identified five key factors in competency that significantly influence management outcomes: professional knowledge and skills in a particular field, degree of mental capacity, degree of entrepreneurship, degree of interpersonal relationship management, and degree of professionalism. So far, career competencies theory has achieved good adaptability in such fields as enterprise human resource development & management and full-time masters of engineering training. Therefore, career competencies of college students are taken as one of the important evaluation contents when evaluating the quality of full-time masters of engineering.

Scholars of the competency theory argue that there are latent traits of competency that distinguish individual performance, including physical and mental traits as well as implicit and explicit traits. Competencies can often be judged by the performance of an individual's job, so it is easier to evaluate them. In addition to latent traits, scholars such as Ledford have proposed that competencies also consist of behavioural traits (M. F. Li & Lu, 2004). Competencies have also been studied and classified by scholars from behavioural and trait perspectives. Among them, scholars from the perspective of traits have classified competencies into two categories: discriminative competencies and benchmark competencies. Discriminative competencies can directly judge workers who achieve different job performance and mainly examine their values, personal characteristics, main purposes, self-understanding, and social roles as these factors are accumulated over time. Benchmark competencies refer to the need to put together individuals with the same job performance, or the basic knowledge and skills that can be acquired through uniform training. In this case, competency is often used in the basic recruitment process.

2.3 Dimensions of employability

Morley (2001) argues that employability is difficult to measure directly because it is not a static personal trait but is related to time and place. Employability is a combination of different components and is constantly changing. He argues that the employability of an individual is a process rather than an event. Thus, there are significant differences in the study of the structure of employability by Chinese and foreign scholars.

Hillage and Pollard (1998) consider that the foundations of employability include the following components: capital stock, including individuals' knowledge, skills and work attitudes; methods of capital use; ability to demonstrate capital; and individual traits such as disability, family status, macroeconomic needs, labour market regulations, and employer recruitment behaviour. Fugate et al. (2004) suggest that employability consists of the following dimensions: (1) career identity, which refers to one's self-definition in the career context, describing "who I am" or "who I want to be"; (2) personal adaptability, which refers to the ability and willingness to change one's skills and behaviours in response to the needs of the external environment; and (3) social and human capital, of which social capital refers to the goodwill inherent in social networks that provides individuals with access to career opportunities through information as well as social and interpersonal influence, and human capital refers to a host of factors influences one's career advancement variables such as age and education (Wanberg et al., 1996), emotional intelligence (Wong & Law, 2002), and work experience and training (Becker, 1975). Based on this study, they proposed a structural model of employability as a psycho-social construct. Van der Heijde and Van der Heijden (2005) considered employability to consist of five dimensions based on a theoretical derivation approach: (1) occupational expertise, which refers to the knowledge and skills related to the corresponding job and are the cornerstone for achieving occupational success; (2) anticipation and optimization, which refers to the individual's positive and creative efforts to transform his or her career opportunities and optimize oneself rather than waiting for them; (3) personal flexibility, which refers to the individual's ability to adapt to the external social environment and to change; (4) corporate sense, which refers to the individual's ability and awareness to work in a team and to actively share his or her knowledge, experience and emotions within the team; and (5) balance, which refers the ability to deal with the conflicting interests between employers and employees.

While the above scholars studied the dimensions of employability from the perspective of individuals, Kleinman and West (1998) studied in detail "what individuals can do" proposed by Hillage and Pollard (1998). They identified the following macro factors that affect employability: (1) demand for labour, which is influenced by macroeconomic conditions and social development. Factors such as the demand for different types of labour at different levels, the demand for different job competencies and the way jobseekers search for jobs all affect graduate employability; (2) supply of labour. The peculiarity of the labour market lies in the fact that the supply can be given quantitatively, but there is no way to quantify the unique abilities and attitudes of individuals. Therefore, the important factor in the supply of labour is

the quality of instead of quantity of the supply. The requirements for many modern jobs are changing, and successful performance depends on not only an individual's own skills but also his or her soft skills such as relationships with others. In addition, supply is influenced by factors such as the location of the jobseeker and conversion cost; (3) hard and soft skills. Employers are increasingly emphasizing soft skills over technical skills. The results of a survey show that 86% of employers listed soft skills as the majority of their recruitment criteria; and (4) macro factors, a key component of which is the "welfare-to-work" as race and social relations also affect employability. In addition, adjustments in enterprises' recruitment strategies and tactics can also affect graduate employability. All the above aspects affect an individual's position in the labour market, which will then affect the individual's future position in the labour market. For example, people who have not been employed for a long time may lose certain knowledge and skills that will make it less likely for them to find jobs in the future. Students' access to education is also a way to improve their positions and increase their opportunities in the labour market.

Rothwell et al. (2008), on the other hand, concluded that graduate employability is influenced by five factors based on a study of the combination of intrinsic and extrinsic factors: (1) the university's brand strength. This is supported by Murray et al. (2020) who hold that there is strong evidence showing that a considerable number of employers only recruit graduates from a certain range of universities; (2) ambition, representing the perception of future success; (3) individual self-belief, which refers to one's confidence in his or her skills and abilities; (4) credibility of the field of study, which shows the state and reputation of one's field of study; and (5) the external labour market's demand for the subject. Rothwell et al. (2008) verified the validity of the scale developed based on this construct by measuring self-perceived employability among business graduates in 2009. Y. X. Ma et al. (2019) evaluated college students' employability and satisfaction with the corresponding cultivation activities from the perspectives of both students and enterprises.

2.3.1 Dimensions and contents of the model of college students' employability

Seen from the existing studies on the structure of college students' employability, the employability structures given by the educational research organizations of various countries and those derived by scholar are all proposed based on the dimensions of college students' employability, and some of these studies also include external factors that affect the employment outcomes of college students, such as labour market conditions. Scholars at home

and abroad have put forward more employability constructs to clarify the dimensions of college students' employability, and they have also conducted extensive research on this topic. Some scholars simply define college students' employability as the ability of college students to obtain career opportunities, which makes it impossible to clearly elaborate on college students' employability; some studies are too theoretical and lack practical applicability; some studies involve a wide range of factors and thus lack focus. Based on the above judgments, this thesis has selected from the sea of existing literature at home and abroad the following studies on the structure of employability to be used as reference and a theoretical basis for an analysis of the structure of o students' employability. Table 2.4 shows the relevant results in the research on employability models abroad. This thesis will draw on these studies for a renewed study in the Chinese context.

Table 2.4 Structural dimensions of employability

Researcher(s) and year	Structural dimensions of employability
Overtoom (2000)	The necessary components of employability include: (1) strong competitiveness, such as the ability to understand things, the ability to adapt to modern information technology and communication skills; (2) reliable skills, such as professional expertise to match the position, career maturity, self-management ability, and technological innovation; (3) the ability to adapt economically, such as the ability to learn new technologies and new things, problem-solving skills, and the ability to realize one's potential in career development; and (4) teamwork competency, including multiple team-related competencies such as external communication, team organization, business negotiation, and organizational leadership.
American Society for Training and Development (2012, October)	Employability consists of five competencies: basic competence, communication competence, adaptability, developmental skills and group effectiveness skills. These five competencies further consist of 16 skill groups, reading, writing, computation; speaking, listening; problem solving, thinking creatively; self-esteem, motivation and goal setting, career planning; interpersonal skills, teamwork, negotiation; and understanding organizational culture and sharing leadership.
Secretary's Commission on Achieving Necessary Skills (1991, June)	There are three classifications of employability. Competency base: basic knowledge & skills, active thinking skills and individual traits required for the job. Category: resource integration and planning skills, interpersonal and communication skills, information gathering and processing skills, systems processing skills and knowledge skills. Specific skills: time management, financial management, recourse management, facilities management, team membership, developing others, learning, serving others, team leadership, consultation, teamwork, information gathering, information evaluation, information organization, information maintenance, information elaboration, information communication, use of computers for information processing, understanding systems, monitoring performance systems, correcting systems, improving systems, designing new systems, technology selection, and technology application.

Researcher(s) and year	Structural dimensions of employability
McLaughlin (1995)	To examine the competencies necessary for employment in Canada: (1) academic skills, referring to the ability to obtain a job, maintain a job, and achieve self-career development; (2) personal management skills, which refer to the individual-related competencies necessary to maintain a job, such as attitudes toward a career and interests in the career; and (3) teamwork skills, referring to the ability to communicate and collaborate with others at work.
Higher Education Quality Committee (2004, April)	Required competencies for graduate employability: (1) ability of thinking, critically or analytically; (2) adaptability, referring to the regular ability to adapt to a variety of complex situations; (3) communication skills, which refers to the ability to communicate effectively with others, both in writing and verbally; (4) teamwork, referring to the ability to work with others; (5) independence, referring to the ability to work independently, engage in professional learning, and execute projects; and (6) professional ethics, possessing the ethical awareness of the profession and being self-critical and reflective in the course of career development, while extending to interact in activities of other areas of the society.
Mitchell (1998)	Employability encompass all knowledge, skills and attitudes that are beneficial to employment: (1) governance competencies, i.e., problem-solving competencies, including analytical, creative, and learning competencies; (2) communication competencies, referring to communication with the external environment, teamwork, environmental adaptability, and individual professional attitudes; (3) business and entrepreneurial competencies, referring to the possession of professional creativity and innovation, spirit of adventure, are self-understanding of the professional process and approach to market productivity and business; (4) multiple competencies, referring to other competencies related to the job position.
The Conference Board of Canada (2000)	Employability is composed of three categories of skills: fundamental skills, personal management skills and teamwork skills. Specifically, fundamental skills consist of the ability to communicate and exchange with the outside world, information acquisition and processing, use of numbers, and problem solving; Personal management skills consist of demonstration of positive attitudes & behaviours, sense of professional responsibility, environmental adaptability, continuously learning ability, and safety awareness; and teamwork skills consist of working with others and participation in projects & tasks.
Australian Chamber of Commerce and Industry (2021, May)	Employability reflects the ability to realize one's potential and achieve career planning in the process of accessing career opportunities and career development. Specifically, it is composed of teamwork skills, planning ability, team organization, problem solving, self-control and learning. In addition, it also consists of professional motivation and enterprise.
Knight and Yorke (2002)	The employability competencies that make up the UESM theory include the ability to apply professional knowledge, the professional and generic skills necessary for the position, self-efficacy under the expression of confident attitudes, and metacognitive skills that reflect strategic awareness.
Forrier and Sels (2003)	Employability is a form of human capital that determines self-career development and consists of the competencies and career expectations that individuals possess, where personal competencies include four elements: individual traits, individual talents, self-evaluation and expression of market behaviour.
Fugate et al. (2004)	Employability is a psychosocial construct with individual characteristics and consists of four dimensions: career identity, individual adaptability, human capital and social capital. Based on the results of initial research, they proposed that college students' employability consists of five dimensions: openness to changes

Researcher(s) and year	Structural dimensions of employability
	at work, work and career resilience, work and career proactivity, career motivation, and work identity. Employability consists of six components: (1) essential attributes, such as the basic skills necessary for social activities. (2) personal competencies such as proactivity, confidence and motivation; (3) basic transferrable skills, including prose and document literacy and numeracy; (4) key transferrable skills, such as problem-solving, basic interpersonal and communication skills, team working, and personal task and time management. (5) high level transferrable skills, such as self-control skills, business thinking, commercial awareness, and other advanced skills. (6) qualifications, work knowledge base and labour market attachment
McQuaid and Lindsay (2005)	
Van der Heijde and Van der Heijden (2005)	Competence-based employability consists of occupational expertise, career planning and optimization, personal flexibility, corporate sense, and balance.
Pool and Sewell (2007)	The CareerEDGE model of employability is proposed, suggesting that employability is closely related to individual self-management, such as self-efficacy, self-confidence and self-esteem.

2.3.2 Two-dimensional models

Most of the existing studies on two-dimensional models are from the perspective with college students as people to be hired, focus on the competencies necessary for college students to obtain a job, and construct models from the perspective of maintaining work abilities.

The structures of two-dimensional models constructed from different research perspectives differ, and the main models constructed from the generic perspective are: employability consists of intelligent (IQ) and non-intellectual (emotional intelligence) factors, or intellectual capital and ability capital elements from the human capital perspective; Zhong and Shi (2003) constructed a model of college students' employability consisting of both intrinsic and extrinsic factors; H. H. Zhang and Wang (2010) argue in their study on college students' employability that employability should include academic expertise and other non-academic competencies. In addition to the general perspective, there are also research perspectives on a unique type of college students. Lei and Yu (2005) aimed their research at a special group of college students in normal colleges and universities and argued that employability consists of two dimensions: basic abilities and other special abilities; J. H. Shen (2005) took a special group of college students majoring in secretarial studies as sample and proposed that employability should consist of the two dimensions of professional-related abilities and other key abilities. Meanwhile, some scholars have also studied the constructs of employability from the perspectives of college students' ability development and the supply-side reform. For example,

D. Zhao (2009) proposes that college students' employability is characterized by wide dimensions and deep levels, and consists of two dimensions, namely personal assets and development ability. Personal assets include the ability to obtain career opportunities and the ability that individuals already have, and development ability is composed of the ability to maintain work and the ability to realize individuals' potential at work; H. Y. Chen (2011) also considers employability to be composed of two dimensions: the ability to acquire career opportunities and the ability to maintain such opportunities; Z. L. Guo et al. (2019) proposed that the structural model of college students' employability includes individual qualities or traits and individual special competitive abilities.

2.3.3 Three-dimensional models

Research on the three-dimensional model focuses on three aspects of individual traits, basic skills in occupational activities and the ability to achieve career potential and development, and places the perspective on the ability of college students to access and maintain job opportunities.

Y. Wang (2005) proposed that college students' employability consists of three parts: basic skills, which are the basic abilities necessary for the employed individual to achieve successful employment and maintain job opportunities; personal management skills, which are the skills and attitudes of the employed individual to achieve self-growth and realize their potential in the career process; and team work skills, which are the ability of the employed to work in a team, communicate and cooperate with others. Z. Y. Xie (2005) proposed in his study on the structural model of college students' employability that employability consists of three competencies: basic abilities, professional abilities and differential abilities. Among the three factors, basic abilities determine packaging; professional abilities determine quality; and differential abilities determine competitiveness; and the three together determine the degree of match of products in the market. Lou et al. (2005) focus their research perspective on individual competitiveness in the model of college students' employability constructs and believe that competitiveness should include three parts of competitiveness: basic part, individuals' core part and environmental part. Basic competitiveness is the ability of college students to be recognized by the employment market and get job opportunities; core competitiveness is the core element of employability; and environmental competitiveness is an important condition to promote employment. Different from other scholars, X. L. Liu (2005) focuses on the stage from job seeking to career development and believes that college students' employability should include three aspects of abilities, namely the ability to obtain career opportunities, the practice of dealing with practical

problems and adaptation to environmental changes. Y. Xiao et al. (2007) proposed a three-dimensional model, which considers the practice of solving practical problems as a prerequisite ability, the learning of re-learning and re-improvement as a key ability, and the innovation of career business creation as the core.

The perspective of the research by L. J. Jia (2007) on the structural model of college students' employability changed from traditional group differences to research methodological differences and proposed from the psychological perspective that college students should be closer to their careers in terms of personality, image and environmental adaptability in order to achieve successful employment. Y. Li et al. (2005) conducted an empirical study and proposed that college students' employability is composed of personal internal quality, work ability and leadership skills. Z. Y. Li and Wang (2009) argue that employability should be aligned with the profession in terms of basic competencies, work skills and personality. On this basis, they classified 17 indicators. S. Z. Lai (2010) believes that college students' employability consists of three factors: self-learning ability, self-management ability and teamwork, and subdivides them into 19 indicators.

2.3.4 Four-dimensional models

Studies on the four-dimensional model focus on the perspectives of college students' career attitudes and planning and the labour market capital and extend from the professional competencies that individuals should possess to the professional psychology and professional activities to construct a structural model of employability.

Y. H. Cui and Wei (2006) proposed a four-dimensional model in their study of college students' employability, which consists of four factors: knowledge, basic skills, character, and job search ability. Y. Wang (2006) believes that employability is composed of the four factors of individuals' cognitive level, reliability quality, individual consciousness, and teamwork skills. In his research on the model of college students' employability structure, S. Y. Chen (2003) argues that basic work skills, professional competence and ability to deal with practical problems, job-seeking ability, and psychological quality are the constructs of employability, where basic work skills and professional competence are the basis of employability, job-seeking ability an additional ability, and psychological quality the lubricant, and the four factors together contribute to college students' employment outcomes. X. C. Zhu (2009) introduced the four-dimensional structure of college students' employability: knowledge & skills, quality, job identity, and social capital. J. Xie (2012) also put forward a four-dimensional structure

model consisting of interpersonal communication ability, analysis and planning ability, adaptability, and ability to take responsibility. Y. Chen (2012) holds that four factors should be included: basic skills, professional skills, personality character, and career planning ability. C. Y. Xu (2013) introduced an empirical research method in the study of college students' employment structure model and proposed a four-dimensional structure from the perspective of capital, including job identity, psychological quality, human capital, and social capital. Yi (2016) proposed a four-dimensional structure based on the characteristics of college students' employability and its influence on the employment outcomes of different groups of college students. The four dimensions are basic abilities, practical problem-solving ability, ability to re-learn and make progress, and practical ability.

2.3.5 Five-dimensional models

The five-dimensional models of employability are not limited to one area but are diversified and complex, and the perspectives of the study include jobseekers' ability to obtain and maintain a job and employers' requirements for jobseekers.

L. H. Zhang and Liu (2005) constructed a five-dimensional model of college students' employability structure, consisting of thinking ability, environmental adaptability, proactivity, practical ability, and the ability to obtain career opportunities. Y. S. Zhang and Peng (2008) studied the content of college students' employability from five aspects, namely moral, intellectual, physical, aesthetic, and social skills. Y. J. Xu and Gao (2008) argue that college students with employment competitiveness should have five basic elements, namely professional skills, job skills, innovation, environmental adaptability, and job search skills. Gao et al. (2009) hold that career value perception, conceptualization ability, career traits, communication ability, and personal management ability are the five dimensions of college students' employability. P. J. Wang (2009) considers moral power, problem analysis ability, job search ability, professional ability, and job competency to be the five dimensions of college students' employability.

T. Wang (2007), from the perspective of the group of vocational and technical colleges in the transportation industry, identified the five dimensions of college students' employability to be vocational skills, thinking ability, basic skills, learning ability, and social ability. Ge (2009), based on the research results of The Conference Board of Canada and the Australian Business Association, proposed that the five dimensions of social communication ability, problem handling ability, planning and team organization ability, personal management ability, and

cooperative work ability constitute college students' employability. Based on the general employability of college students, introduced basic skills, interpersonal skills, professional skills, social adaptability, and career development skills to be the five core dimensions of employability. Based on the empirical research method, F. C. Wang et al. (2011) proposed five dimensions of individual quality, basic skills, career development quality, interpersonal skills, and problem solving ability as the constructs of college students' employability from the employer's perspective. J. K. Li (2012) proposed that individual quality, thinking ability, professional identification, professional competence, and interpersonal skills are the core elements of college students' employability based on the factor analysis method of questionnaire, among which the first three elements are intrinsic factors, and the last two elements are extrinsic factors. Based on the empirical research method, J. T. Wang and Sha (2018) also proposed that college students' employability is composed of five dimensions: scientific and cultural literacy, professional quality, interpersonal ability, individual physical and mental quality, and job-hunting skills.

2.3.6 Six-or-more- dimensional models

There are few studies on the six-dimensional models of college students' employability. H. Y. Cui et al. (2010) proposed six dimensions of individual development ability, execution ability, thinking ability, environmental adaptability, job-hunting skills, and impression management skills based on existing studies at home and abroad; Cheng and Zhi (2016) put forward the six dimensions of college students' employability to be individual quality, basic skills, career development potential, professional personality, leadership, and teamwork ability from the perspective of career development.

Some researchers have proposed college students' employability models consisting of more than six dimensions. X. X. Tao (2007) proposed a seven-dimensional model of college students' employability consisting of executive ability, teamwork skills, competency, ability to work in a social environment, personal development ability, emotional management ability, and impression management ability. X. N. Yang (2011) used qualitative and quantitative research methods and developed an eight-dimensional model of college students' employability consisting of individual thinking ability, execution ability, interpersonal skills, environmental adaptability, individual developmental skills, teamwork skills, emotional control skills, and independent learning skills. Luo et al. (2010) proposed a nine-dimensional model consisting of professional competence, career experience, innovation ability and problem-solving ability,

teamwork ability, career motivation, self-control ability, information gathering ability, job search skills, and self-orientation.

As shown in Table 2.5, which summarizes the progress of domestic research on the structure of employability, employability as a research hot research angle, but neither the concept nor the structure of employability research has formed a unified conclusion.

Table 2.5 Dimensions of employability by Chinese scholars

Researcher(s) and year	Dimensions of employability
X. M. Zheng (2002)	Employability consists of the ability to learn independently, to perform socially, to seek job opportunities, to adapt to the environment, and to think.
W. D. Tian (2002)	Employability consists of basic skills, professional skills for job positions and differential competencies that differ from others. The key components include awareness of professional responsibilities, job-hunting skills, logical skill, problem solving ability, physical and mental foundations, safety awareness, and individual traits.
Ren (2005)	College students' employability consists of three levels, namely basic abilities, professional expertise and job acquisition ability; basic abilities are the basis for meeting career needs, including environmental adaptability, communication skills, teamwork skills, information gathering and processing skills, language skills, team management ability, psychological resilience and career mindedness; professional expertise, which are the skills for realizing career activities, is composed of the basic theories and the ability to realize such theories formed through systematic education in college. It consists of practical ability, learning and innovation ability, and problem-solving ability; job acquisition ability is the ability to obtain job opportunities, including information acquisition and processing skills, self-positioning, language expression ability, opportunity grasping ability, decision making ability, and self-referral ability.
Y. Li et al. (2005)	The three-dimensional model of college students' employability consists of personal qualities, work ability, as well as social interaction and leadership ability. Personal qualities include six elements: honesty and integrity, sense of professional responsibility, initiative, sense of responsibility, hard work, and dedication to work; work ability is composed of eight elements: problem analysis ability, thinking ability, problem handling ability, independence, environmental adaptability, resilience, learning ability, and team cooperation ability; social interaction and leadership ability includes six elements: self-expression ability, social interaction ability, organizational and coordination ability, interpersonal skills, innovation and entrepreneurship, and team leadership.
Xiong and Huang (2005)	A four-dimensional model of college students' employability: (1) professional skills with strong practical skills at work; (2) individual traits with hard-working and honest character; (3) teamwork skills; and (4) innovation ability with social practice experience.
L. H. Zhang and Liu (2005)	Factors of the five-dimensional model of employability: (1) thinking ability, including the ability to analyse problems, creativity, information acquisition and processing, problem processing, resilience, ability to accept new things, and social insight; (2) environmental adaptability, including psychological resilience, endurance and stress resistance; (3) independent ability, including the ability to work diligently, learn well, and make plans; (4) practical creativity, including communication skills, teamwork, team organization, and technical creativity; (5)

Researcher(s) and year	Dimensions of employability
	job search skills, including self-promotion, self-expression, self-confidence and self-esteem.
L. J. Jia (2007)	Based on exploratory factor analysis and confirmatory factor analysis research methods, a three-dimensional model of college students' employability is proposed consisting of professional personality, social adaptability and professional image, and professional personality is the core.
Y. Xiao et al. (2007)	It is proposed that the core factors for achieving successful job search in the structural model of college students' employability are (1) basic practical skills, including interpersonal skills, self-expression, self-referral, learning ability, practical ability, and organizational management ability; (2) knowledge breadth or expansion ability; (3) innovation ability, with the ability to create new ideas, concepts and theories in professional activities, the ability to identify problems, and the ability to deal with them.
S. Z. Ma et al. (2012)	Based on the exploratory factor analysis, confirmatory factor analysis, correlation theory, and multi-factor analysis of variance, a three-dimensional model of college students' employability structure was proposed consisting of social skills, self-presenting skill and job-hunting skill.
J. K. Li (2012)	Five-dimensional model of the structure of college students' employability: professional skills, interpersonal interactions, analysis and reflection, professional identity, and individual character. There are no significant differences in the factors influencing employability among groups with different genders, ages, schools, places of origin, majors or college social group, but there are significant differences in the factors influencing employability among groups with different political statuses, levels of education, leadership levels in societies, and internship units.
H. W. Jin et al. (2013)	A four-dimensional model of the employability: relearning skills, core values and world view, personal management skills, and core competencies.
P. J. Wang (2009)	A five-dimensional model of college students' employability consisting of job search skill, vocational skills, analytical and processing skills, professional competence, and ethical and spiritual competencies.
Y. Wang (2005)	A three-dimensional structure of employability skills: basic skills, self-management skills and teamwork skills.
Y. H. Cui and Wei (2006)	The four-level structure of employability: knowledge, skills, job search skills, and personal traits.
Y. Wang (2006)	A four-dimensional structure of college students' employability skills: cognitive skills, reliability, communication and collaboration skills, self-control, and self-awareness skills.
S. Y. Chen (2003)	A four-dimensional model of college students' employability: basic skills, professional skills and practical skills, job-hunting skills, and psychological adaptability, of which the first two are the foundation skills, job-hunting skills are supporting skills, and psychological adaptability the lubricant.
Y. J. Xu and Gao (2008)	The five-dimensional structure of college students' employability: professional skills, career-based competencies, career acquisition skills, social adaptability, and innovation ability.
X. X. Tao (2007)	The seven-dimensional structure of college students' employability: execution ability, teamwork, competency, social adaptability, personal development ability, emotional management skills, and impression management skills.

Researcher(s) and year	Dimensions of employability
J. F. Jia et al. (2011)	A five-dimensional structure of college students' employability: action-oriented competency, affective competency. Specifically, action-oriented competency is composed of organizational skills, coordination skills, information processing skills, self-positioning, execution ability, team leadership skills, time management skills, and strategic capability; affective competency consists of self-control ability, stress tolerance, interpersonal skills, social adaptability, and decision-making ability; meta-competency is composed of independent learning ability, problem solving ability, problem analysis skills, teamwork, creativity and self-potential development; value, quality and trait competency is composed of professional responsibility, self-confidence and self-esteem, professional motivation, honesty and trustworthiness; and knowledge and skill competency consists of professional knowledge, practical experience, language skills, computer skills, writing skills, laws and regulations.

2.3.7 Different focuses of model development

In the model of college students' employability, college students are the carrier of the concept of employability, which is reflected in the continuous process of realization of job hunting and employment of college students upon graduation. During the job-hunting process, college students shift between both higher education institutions and the labour market, moving through time and space. Existing studies differ in their focuses because of differences in disciplines and research topics: some scholars focus on the development of college students' employability during college education; some scholars focus on the performance of college students' competitiveness in the labour market when they are employed; some scholars focus on the development of college students' career development potential and employability continuity. S. B. Wen (2006) chose a perspective different from conventional research and studied the strategies of college students' employability development from the perspectives of individuals, universities, employers and government, and even put forward suggestions to the college education reform. Song (2008) studied job-hunting skills by examining enterprise demand, the actual experience of the employed, and the factors influencing employment from the perspective of enterprises' hiring ability and demand. He put forward that employability is the quality and ability of workers to get career opportunities, keep career opportunities, achieve re-employment, and realize their own career potential and value. Z. W. Guo and van der Heijden (2006) proposed the concept of persistent employability for career development. According to the concept, with the accelerated pace of technological development, nationalized economic trends and the development of new things and new economic models, the employment environment and characteristics of the labour market have changed significantly, forming the characteristics of boundaryless careers. To improve the flexibility of enterprises, employees are

required to continuously adapt to different career positions and roles, and the flow of employees within and among organizations is enhanced. In the new boundaryless career environment, workers' employability is becoming more and more important in their career process.

2.3.8 The names and interpretations of the model factors each has significance

A review of the existing studies on the models and dimensions of employability shows the following characteristics:

(1) Studies on the two-dimensional structure are mainly conducted using a dialectical approach from the perspectives of internal and external factors, intelligence and ability, or conventional and special abilities.

(2) Studies on the three-dimensional structure are mostly carried out from college students' special characteristics and job hunting after graduation. Shao and Hu (2005) proposed that in order to achieve success in job hunting, improve job satisfaction and self-competitiveness, college students need to improve their comprehensive qualities and abilities, and the comprehensive qualities needed for job hunting include adaptability to changes in the social environment, professional abilities that enable individuals to become professionals, and special abilities that enable individuals to realize their added value and career development potential.

(3) Studies on the four-dimensional structure are based on human resource management theory and models are built based on four dimensions: knowledge, skills, professional attitudes, and others.

(4) Studies on the five-dimensional structure are focused on the five dimensions: ability of thinking, environmental adaptability, professional skills, job-hunting skills, and career development or learning & development skills. What are studied are the refined models of the three-dimensional structure and are complementary to employability from the perspective of sustainable employment.

(5) Models with more than five dimensions, which have complex constructs, become a purely academic discussion and deviate from the need for easy-to-use model construction. Therefore, they have low practical application value.

It can be seen from the above analysis of the status quo of research that there are large differences in not only research perspectives, research understanding, research focuses, research subjects, and research theories but also the proposed structural models and dimensions of employability as well as factors in the models and structures. Due to differences in researchers' disciplines, items such as competency definition, competency perspective,

competency dimensions, and competency factors in the structural models of college students' employability vary significantly, but the overall research contents are rich. In summary, the research perspectives of existing studies are focused on the functions, levels and attributes of each defined competency factor in the structural models.

In the research on the structural models of college students' employability, empirical research marked a watershed in 2005. Before 2005, there was limited research, and the research methods include generalized model method, open questionnaire method and interview method, with the characteristics of single evaluation scale, low scientific validity, few cases characterised by the combination of quantitative and qualitative studies, large differences in measurement methods, different measurement theories, narrow scope of research adaptation, and lack of generalization value of research results. After 2005, significant differences started to occur. More researchers used the empirical research method, which has the advantages of expanded research horizon, increased depth of research, high standardization of research methods, increased reliability of conclusions and rigorous scale development. But the samples of these studies are mostly limited to a few schools or a certain region, and the sample size is mostly less than 1,000, which have restricted the generalization value of the research results.

2.4 Chinese Graduate Employability Scale (CGES)

As mentioned in the previous section, the present study draws on the three constructs of employability introduced by S. Z. Ma et al. (2012) who argued that a rational criterion indicator to measure a college student's employment is student's own satisfaction with his or her employment upon graduation because such satisfaction reflects the student's personal values, compensation and the job itself. Thus, in the study of S. Z. Ma et al. (2012), college graduate employability is defined as "a college student's ability to obtain satisfactory job through his or her own efforts upon graduation into workplace". Such definition differs from most definitions in literature in three ways: (1) It highlights the importance of personal satisfaction with the employment outcome. In other words, it is not only about taking a job but also the quality of a job perceived by the student. (2) This definition stresses the relevance of individual differences. From human capital perspective, students' human capital varies due to the universities they attend and the families in which they are raised up. Use of an absolute measurement for employability may be misleading. If a student is happy with his or her employment outcome, which depends on his or her actual situation, that might mean his or her human capital is realized in the labour market after higher education. (3) The definition focuses on students' own efforts

in the employment process. This is important in China because some students may have offers due to parents' efforts or *guanxi*, which does not reflect the students' own employability.

Drawing on human capital theory and through interviews and surveys, S. Z. Ma et al. (2012) identified job-hunting skill, social skill, and self-presenting skill as the three dimensions of employability. Furthermore, they concluded that "job-hunting skill" reflects the insufficient employment information considered by the search theory in the labour market; that "social skill" underlines the importance of social capital in college graduates' employment process in the Chinese society underpinned by *renqing* (favour) and *guanxi* (relationships); and that "self-presenting" skill is a reflection of jobseekers' marketing skills in a competitive labour market.

2.5 Emotional intelligence and its association with employability

Salovey and Mayer (1990) were among the earliest scholars to introduce the concept "emotional intelligence" and proposed that emotional intelligence is highly associated with career success. They defined emotional intelligence as "the subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions". Specifically, emotional intelligence is composed of four levels of abilities: (1) the ability to perceive and express emotions; (2) the ability of emotions to facilitate thinking; (3) the ability to understand and analyse emotions as well as the ability to identify the correlation between emotions and verbal expression; and (4) the ability to adjust and control emotions as well as the ability to use the collection of information to accurately adjust or control a certain emotion. The four levels of competence are hierarchical and have developmental differences, with competence (1) being the basic level of emotional intelligence and developing the earliest and competence (4) being the mature level of emotional competence and developing in the later stages. Later, Goleman (1995) proposed that emotional intelligence involves abilities including self-awareness, managing emotions, motivating oneself, empathy, and social skills.

Wong and Law (2002) used the Mayer and Salovey (1997) definition of emotional intelligence and developed emotional intelligence scale in Chinese setting which was composed of four distinct dimensions: (1) Appraisal and expression of one's own emotions (self emotional appraisal [SEA]). This dimension refers to the individual's ability to understand their emotions and be able to express these emotions naturally; (2) appraisal and recognition of others' emotions (others' emotional appraisal [OEA]). This dimension relates to peoples' ability to perceive and understand the emotions of those people around them; (3) regulation of one's own

emotions (regulation of emotion [ROE]). This part relates to the ability of people to regulate their emotions; and (4) use of emotion to facilitate performance (use of emotion [UOE]). This dimension relates to the ability of individuals to make use of their emotions.

In recent years, research on the association between emotional intelligence and college students' employability has become a topic of keen interest in the education community and the academia. For example, researchers argue that emotional intelligence is associated with college students' academic achievement, employability and work performance (O'Boyle Jr et al., 2011; Petrides et al., 2004).

Schutte et al. (2001) suggest that people with high levels of emotional intelligence tend to be more empathetic and better at self-monitoring in social situations and have better social skills, which are more conducive to maintaining their existing interpersonal relations. Therefore, it is expected that college students' emotional intelligence is associated with their abilities to express emotions, present themselves properly and establish harmonious interpersonal relations with their teachers and classmates, and that such association is related to their social skills and job-hunting skills. In short, this study proposes that graduates' emotional intelligence is positively related to their employability.

2.6 Employability and criterion variables: person-organization fit and career adaptability

The concept of person-organization fit was first proposed by Lewin (1951). He argued that a person's feeling of fit depends on his/her interaction with the organizational environment, which in turn has a positive effect on the person's workplace attitudes and behaviours as well as the organization. So far, there has been no consensus among researchers on the connotation of the concept of person-organization fit, but most researchers accept that the compatibility and consistency between individual employees and the organization are the core components of person-organization fit, and agree that person-organization fit has a positive impact on employees and organizations (W. D. Zhao, 2013). Kristof (1996) summarized the four elements of the operational definition of person-organization fit, namely consistency of values, similarity of goals, fit between personality traits and organizational climate, and matching of individual needs with the needs of the organization. This is consistent with the characteristics of employment relationships that organizations emphasize. For example, strong employment relationships emphasize goal congruence (Ouchi, 1980), focus on values promotion, orientation

and training (Gehman et al., 2013), and satisfaction of relational needs and maintenance and support of the organization's social construction (Gittell & Douglass, 2012).

Person-organization fit has a positive effect on both individuals and organizations, and the relevant outcome variables include: career attitudes, career behaviours and career performance, which include in detail career satisfaction, organizational commitment, career stability, job content performance and contextual performance (Astakhova, 2016; Carless, 2005; Cooper-Thomas et al., 2004; Downey et al., 1975; Hoffman & Woehr, 2006; Judge, 1994; Kristof - Brown et al., 2005; Pervin, 1968; Terborg, 1981; Verquer et al., 2003; Westerman & Cyr, 2004). Research has shown that person-organization fit leads to higher work engagement, higher organizational commitment and lower turnover, and promotes health and adaptation (Moos, 1987; Verquer et al., 2003), and that individuals who feel person-organization fit have higher satisfaction (Jansen & Kristof-Brown, 2006), stronger sense of belonging (Cable & Judge, 1996) and better performance (Van Vianen et al., 2011). The analysis by Kristof - Brown et al. (2005) shows the positive effects of person-organization fit on work attitudes, turnover intention, length of service, pro-social behaviour and job performance (Judge, 1994; Lauver & Kristof-Brown, 2001; O'Reilly & Chatman, 1986; Posner, 1992). Studies by Verquer et al. (2003) and others have also demonstrated that person-organization fit is associated with turnover intention, job satisfaction and organizational commitment.

Seen from the perspective of the "person-job" fit theory, Z. L. Hu et al. (2008) argue that a high degree of "person-job" fit means a high degree of alignment between personal characteristics and the professional environment, which can significantly increase work efficiency and the possibility of career success, and vice versa. Based on the definition of employability proposed in this study, especially college students' central role in obtaining satisfying jobs, this study argues that the job opportunities obtained by graduates through their own efforts are conducive to increasing their person-job/organization fit. Such fit will not only help increase individuals' job and career stability but also reduce turnover rate for employers. Therefore, this study proposes that employability (CGES) is positively related to person-job/organization fit.

Adaptability is usually defined as a tendency or potential of an organism to maintain a harmonious and dynamic equilibrium with the environment. Adaptability is an explanation of the adaptive process or state and is an internal factor of the adaptive process and its state. Savickas (1997) regards adaptability as a necessary quality for practitioners to succeed in unstable environments. It is related to planning, readiness to cope and willingness to explore

self and the environment. Fugate et al. (2004) regard adaptability as a component of employability and argue that adaptability is a person's willingness and ability to change behaviours, feelings and thoughts in response to the demands of the environment and that adaptability is composed of optimism, a propensity to learn, openness, internal control and general self-efficacy.

According to Ployhart and Bliese (2006), adaptability is a construct that exists within an individual that influences the way the individual makes sense of and reacts to different environments. O'Connell et al. (2008) define adaptability as an individual's tendency to develop different responses to adapt to a certain environment in society based on different circumstances, and to continuously experiment and optimize the self to feed back on the benign and rapid development of the self with the integration of optimal response behaviours.

Savickas (1997) defined career adaptability as "the readiness to cope with the predictable tasks of preparing for and participating in the work role and with the unpredictable adjustments prompted by changes in work and working conditions". Thus, career adaptability refers to a person's psychosocial resources for coping with societal changes and maintaining harmony with the environment. Given the constant changing work environment, this study is interested in understanding the link between employability and career adaptability.

According to Australia's Department of Education, Skills and Employment (DEST), employability should consist of communication skills, teamwork skills, problem-solving skills, self-management skills, organizational and planning skills, the ability to apply technologies and skills, lifelong learning skills and entrepreneurial skills (Precision Consultancy, 2006). De Guzman and Choi (2013), based on DEST's research, pointed out that employability and career adaptability are closely linked and interact with each other, that this association is especially helpful for college students who are about to enter the workplace, and that people with high levels of employability can adapt more effectively to any changing workplace environment.

At present, research on employability abroad, from the perspective of whether education or economics or psychology generally points out that in today's rapidly changing era of knowledge economy, employability is extremely important for college graduates to play their roles and reflect their own value, and employers need employees with not only technical knowledge and skills but also "soft skills" necessary for professional adaptation. The "self-marketing skills" and "social skills" dimensions in the CGES proposed in this study belong to such "soft skills". These skills help college graduates adapt to the flexible and changing environment in the workplace after graduation and develop the ability to solve problems and communicate effectively.

Therefore, this study proposes that college students' employability (CGES) is positively related to their career adaptability after graduation.

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Chapter 3: Research Methods

The present study adopted quantitative research methods. Two waves of questionnaires were distributed to collect data respectively from June to July 2019 and from July to August 2021. The first questionnaire survey (Time 1 survey, referred to as “T1 survey” below) was mainly aimed at validating CGES as well as the relationships among college students' employability, emotional intelligence and satisfaction with employment outcomes. The second questionnaire survey (Time 2 survey, referred to as “T2 survey” below) was conducted to explore the career development of T1 respondents two years after graduation as well as the relationship between college students' employability and career development variables.

3.1 Sample and procedure of T1 survey

T1 survey was conducted using a combination of paper-pencil questionnaires and web-based questionnaires. Data were collected from two samples: a normal university in southwest China (paper-pencil questionnaires) and other universities (web-based questionnaires)

3.1.1 Procedure of T1 survey based on paper-pencil questionnaires

From early June to the end of July in 2019, the author's research team randomly distributed 3,451 paper-pencil questionnaires among the 2019 fresh graduates on the campus of a normal university. Before the survey, the author provided a targeted training for the research project team members. During the training, the survey principles and procedures were unified; it was emphasized that the principle of voluntary participation shall be strictly followed throughout the survey; and all the research team members were required to keep relevant information of the respondents confidential. Besides, computer operation training was conducted using 120 computers for 180 student assistants who were responsible for collating and entering data. The principles, steps and procedures of data collation and entry were unified, and it was emphasized that the process of data collation and data entry into Excel sheets shall be fully based on objective facts.

The specific implementation process was guided by two teachers from the Employment Office of the university. Besides, 59 counsellors responsible for student employment work from all relevant colleges/schools/faculties and 83 student volunteers assisted in questionnaire distribution. In most of the colleges/schools/faculties, questionnaires were handed to the class monitor of each graduating class who distributed the questionnaires to all the students. After the questionnaires

were completed, the monitor recovered the questionnaires and submitted them to relevant teachers. In some colleges/schools/faculties, questionnaires were distributed together with graduation certificates and degree certificates. And after completion, the questionnaires were recovered and kept by the counsellors. It was stated in the questionnaire that the survey was anonymous, that only comprehensive statistical processing would be done, that no case study would be done, and that the results would be kept strictly confidential.

The sample included the university's main colleges/schools/faculties, specifically, College of Energy and Environmental Sciences, College of History and Administration, College of Foreign Languages, School of Law and Sociology, Faculty of Chemistry and Chemical Engineering, School of Mathematics, School of Information Science and Technology, School of Life Sciences, College of Vocational and Technical Education, Yunnan Chinese Language and Culture College, The School of Chinese Language and Literature, School of Economics and Management, School of Fine Arts, School of Physics and Electronic Information, Faculty of Education, Faculty of Geography as well as School of Music and Dance. The majors of the respondents covered most disciplines such as science, engineering, liberal arts, management, economics and some interdisciplinary disciplines. Basically, all existing majors are covered.

This study divided all disciplines into two broad categories for the convenience of data analysis. The first category consisted of humanities and social sciences, and the second category consisted of science, engineering, agriculture, and medicine. Literature, history, education, law, financial management, accounting, marketing, insurance, and foreign languages were classified into the category of humanities and social sciences, while physics, chemistry, electronic information engineering, mechanical engineering, medical testing technology, computer science and technology, civil engineering, software engineering and biological science were classified into the category of science, engineering, agriculture and medicine.

A total of 3,451 questionnaires were distributed, 2,556 of which were recovered, with a recovery rate of 74.1%. Of the recovered questionnaires, 300 were invalid, and 2,256 were valid. Valid questionnaires accounted for 88.2% of all the questionnaires.

3.1.2 Descriptive statistics of T1 survey sample based on paper-pencil questionnaires

T1 survey based on paper-pencil questionnaires analysed a sample of 2,256 respondents. The descriptive analysis of the sample is shown in Table 3.1. Seen from gender distribution, the majority (1,575 respondents) of the sample were female respondents, accounting for 72.55% of the total sample, whereas 596 respondents were male, accounting for 27.45% of the total sample.

Besides, 85 respondents did not fill in their genders. In terms of the geographical distribution of residence, 47.35% (1,038 respondents) of the total sample lived in rural areas; 28.24% (619 respondents) in counties (county-level cities and county-level administrative regions), and only 23.63% (518 respondents) in provincial cities and municipalities directly under the central government, and 81 respondents did not respond to this item. As to the distribution based on parents' level of education (the higher level of education between the two), those whose parents had received middle school education or below accounted for 51.18% (1,132 respondents) of the total sample; those whose parents had received high school education took up 22.42% (496 respondents); those whose parents had received college education or above accounted for 13.52% (299 respondents); those whose parents had received junior college education took up 12.7% (281 respondents); and 48 respondents did not fill out this item. Regarding the distribution of average monthly household income, respondents whose average monthly household income fell between 2,000 and 4,000 yuan took up 31.64% (699 respondents) of the total sample; those falling between 4,000 and 6,000 yuan accounted for 27.98% (618 respondents); those falling within the range of 6,000-8,000 yuan took up 14.35% (317 respondents); those with an average monthly household income of less than 2,000 yuan accounted for 12.22% (270 respondents); those falling within the range of 8,000-10,000 yuan took up 6.93% (153 respondents); those with an average monthly household income of more than 10,000 yuan accounted for 6.84% (151 respondents); and 48 respondents left this item uncompleted. Regarding the distribution of the average ranking of academic performance in the class during the four undergraduate years, 33.38% (740 respondents) of the total sample ranked between the top 10% and the top 30%, 31.57% (700 respondents) between the top 30% and the 50%, 15.20% (337 respondents) between the top 50% and the top 70%, 14.21% (315 respondents) among the top 10%, and only 5.32% (118 respondents) after the top 70%. Besides, 46 respondents did not respond to this item.

Table 3.1 Descriptive statistics of T1 survey sample based on paper-pencil questionnaires (N=2,256)

Title	Category	Percentage (%)	Cumulative percentage (%)
Gender	Female	72.55	72.55
	Male	27.45	100.00
Place of residence	Rural areas	47.35	47.35
	County (county-level city or county-level administrative region)	28.24	75.59
	Provincial city or municipality directly under the central government	23.63	99.22

Title	Category	Percentage (%)	Cumulative percentage (%)
Parents' level of education	Middle school education or below	51.18	51.18
	High school education	22.42	73.60
	Junior college education	12.70	86.30
	College education or above	13.52	99.82
Average monthly household income	Below 2,000 yuan	12.22	12.22
	2,000-4,000 yuan	31.64	43.87
	4,000-6,000 yuan	27.98	71.84
	6,000-8,000 yuan	14.35	86.19
	8,000-10,000 yuan	6.93	93.12
	Above 10,000 yuan	6.84	99.95
Average ranking of academic performance in the class during the four undergraduate years	Top 10%	14.21	14.21
	10%-30%	33.38	47.59
	30%-50%	31.57	79.16
	50%-70%	15.20	94.36
	After 70%	5.32	99.68

The descriptive analysis of the employment status of T1 survey sample based on paper-pencil questionnaires (N=2,256) is shown in Table 3.2. In terms of “the current employment status”, 46.45% (1,013 respondents) of the total sample had found a job; those who were still looking for a job accounted for 41.13% (897 respondents); those who would pursue graduate study took up 8.67% (189 respondents); those who planned to start their own business took up the least (3.53%, 77 respondents); and 75 respondents did not fill in this item. With regard to the item “If you have found a job, how many job offers have you got as of today?”, those who had been given two job offers accounted for the largest percentage (31.32%, 451 respondents); 26.11% (376 respondents) had obtained three job offers; 21.25% (306 respondents) had received one job offer; 10.07% (145 respondents) had been provided four job offers; 5.63% (81 respondents) had got five job offers; 5.56% (80 respondents) had been given more than five job offers; and 816 respondents did not respond to this item. As to the “nature of your organization” item, 38.6% (525 respondents) of the sample signed contracts with state-owned enterprises (SOEs), 20.51% (279 respondents) with public institutions, 16.22% (226 respondents) with institutions other than government departments, SOEs, private enterprises, foreign enterprises and public institutions, 14.12% (192 respondents) with foreign enterprises, 6.91% (94 respondents) with private enterprises and 3.24% (44 respondents) with government departments, and 896 respondents did not fill in the item. Regarding “monthly salary offered by your employer”, the sample size of the respondents with a monthly salary of 4,000-5,000 yuan was the largest, accounting for 33.49% (439 respondents); those with a monthly salary of 3,000-4,000 yuan took up 29.52% (387 respondents); those with a monthly salary of 5,000-6,000 yuan accounted for 18.15% (238 respondents); those with a monthly salary of more than 6,000 yuan took up 10.14% (133 respondents); those with a monthly salary of less than 3,000 yuan

accounted for 8.54% (112 respondents); and 945 respondents did not fill out this item. In terms of the number of interviews, 49.70% (657 respondents) of the total sample had attended one to three interviews; those who had attended four to six interviews took up 32.38% (428 respondents); those who had been interviewed more than six times accounted for 10.44% (138 respondents); those who had never been interviewed took up 5.37% (71 respondents); and 934 respondents left this item uncompleted. Seen from the job location of the organization, 31.25% (400 respondents) of the total sample would work in counties, county-level cities or county-level administrative regions, 30.94% (396 respondents) in provincial capitals, 21.64% (277 respondents) in prefecture-level cities, 8.98% (115 respondents) in townships, 4.06% (52 respondents) in other places and 3.13% in villages (40 respondents), and 976 respondents did not respond to this item.

Table 3.2 Descriptive analysis of the employment status of T1 survey sample based on paper-pencil questionnaires (N=2,256)

Title	Category	Percentage (%)	Cumulative percentage (%)
1. Current employment status	1. I have found a job.	46.45	46.45
	2. I am still looking for a job.	41.13	87.58
	3. I will pursue graduate study.	8.67	96.25
	4. I will start my own business.	3.53	99.78
2. If you have found a job, how many job offers have you got as of today?	1	21.25	21.25
	2	31.32	52.57
	3	26.11	78.68
	4	10.07	88.75
	5	5.63	94.38
	More than 5	5.56	99.93
3. Nature of your organization	1. State-owned enterprise	38.60	38.60
	2. Private enterprise	6.91	45.51
	3. Foreign enterprise	14.12	59.63
	4 Public institution	20.51	80.15
	5. Government department	3.24	83.38
	6. Other	16.62	100.00
Your monthly salary	Below 3,000 yuan	8.54	8.54
	3,000-4,000 yuan	29.52	38.06
	4,000-5,000 yuan	33.49	71.55
	5,000-6,000 yuan	18.15	89.70
	More than 6,000 yuan	10.14	99.85
The number of interviews you have attended	0	5.37	5.37
	1-3 times	49.70	55.07
	4-6 times	32.38	87.44
	More than 6 times	10.44	97.88
Job location of your organization	Provincial capital	30.94	30.94
	Prefecture-level city	21.64	52.58
	County, county-level city or county-level administrative region	31.25	83.83
	Township	8.98	92.81
	Village	3.13	95.94
	Other	4.06	100.00

3.1.3 Procedure of T1 online survey

From early July to early August 2019, researchers established contacts with 17 colleges and universities across China through the recommendation of colleagues and alumni. The sample of T1 online survey consisted of the 2019 fresh graduates from 17 universities distributed in the eastern, central and western provinces of China. Prior to the survey, ten random student volunteers from the 2019 fresh graduates of a normal university in southwest China were invited to conduct an answer time test. The normal answer time was measured to be between 90 seconds and 390 seconds, and 3,570 web-based questionnaires were randomly distributed. After removing the questionnaires completed within 90 seconds and those completed with more than 390 seconds, a total of 3,024 valid questionnaires were recovered. Then 300 questionnaires with poor results were removed, leaving 2,724 valid web-based questionnaires.

3.1.4 Descriptive analysis of the sample of T1 online survey

T1 online survey analysed a sample of 2,724 respondents. The descriptive analysis of the sample is shown in Table 3.3. Seen from gender distribution, the majority (2,003) of the sample were female respondents, accounting for 73.53% of the total sample, whereas 721 respondents were male, accounting for 26.47% of the total sample. In terms of the geographical distribution of residence, 50.99% (1,389 respondents) of the total sample lived in rural areas, 25.33% (690 respondents) in counties (county-level cities and county-level administrative regions), and only 23.68% (645 respondents) in provincial cities and municipalities directly under the central government. Seen from the distribution based on parents' level of education (the higher level of education between the two), those whose parents had received middle school education or below accounted for 65.05% (1,772 respondents) of the total sample; those whose parents had received high school education took up 17.84% (486 respondents); those whose parents had received junior college education accounted for 10.76% (293 respondents); and those whose parents had received college education or above took up 6.35% (173 respondents). With regard to the distribution of average monthly household income, respondents whose average monthly household income fell between 2,000 and 4,000 yuan took up 35.68% (972 respondents) of the total sample; those with an average monthly household income of less than 2,000 yuan accounted for 23.68% (645 respondents); those falling between 4,000 and 6,000 yuan took up 18.76% (511 respondents); those falling within the range of 6,000-8,000 yuan accounted for 9.43% (257 respondents); those with an average monthly household income of more than 10,000 yuan accounted for 6.46% (176 respondents); and those falling within the range of

8,000-10,000 yuan took up 5.98% (163 respondents). Regarding the distribution of average ranking of academic performance in the class during the four undergraduate years, 33.15% (903 respondents) of the total sample ranked between the top 10% and the top 30%, 27.57% (751 respondents) between the top 30% and the 50%, 19.09% (520 respondents) among the top 10%, 14.68% (400 respondents) between the top 50% and the top 70%, and only 5.51% (150 respondents) after the top 70%.

Table 3.3 Descriptive analysis of the sample of the first online questionnaire survey (N=2,724)

Title	Category	Percentage (%)	Cumulative percentage (%)
Gender	Female	73.53	73.53
	Male	26.47	100.00
Place of residence	Rural area	50.99	50.99
	County (county-level city or county-level administrative region)	25.33	76.32
	Provincial city or municipality directly under the central government	23.68	100.00
Parents' level of education	Middle school education or below	65.05	65.05
	High school education	17.84	82.89
	Junior college education	10.76	93.65
	College education or above	6.35	100.00
Average monthly household income	Below 2,000 yuan	23.68	23.68
	2,000-4,000 yuan	35.68	59.36
	4,000-6,000 yuan	18.76	78.12
	6,000-8,000 yuan	9.43	87.56
	8,000-10,000 yuan	5.98	93.54
	Above 10,000 yuan	6.46	100.00
Average ranking of academic performance in the class during the four undergraduate years	Top 10%	19.09	19.09
	10%-30%	33.15	52.24
	30%-50%	27.57	79.81
	50%-70%	14.68	94.49
	After 70%	5.51	100.00

The descriptive analysis of the employment status of T1 online survey sample (N=2,724) is shown in Table 3.4. In terms of “the current employment status”, 46.22% (1,259 respondents) of the total sample had found a job; those who were still looking for a job accounted for 49.04% (1,336 respondents); those who would pursue graduate study took up 3.41% (93 respondents); and those who planned to start their own business took up the least (1.32%, 36 respondents). With regard to the item “If you have found a job, how many job offers have you got as of today?”, those who had been given two job offers accounted for the largest percentage (25.39%, 402 respondents); 22.87% (362 respondents) had received one job offer; 18.32% (290 respondents) had obtained three job offers; 5.94% (94 respondents) had been given more than five job offers; 5.12% (81 respondents) had been provided four job offers; and 1.9% (30

respondents) had got five job offers. As to the “nature of your organization” item, 29.56% (468 respondents) of the sample signed contracts with SOEs, 18.83% (298 respondents) with public institutions, 13.71% (217 respondents) with institutions other than government departments, SOEs, private enterprises, foreign enterprises and public institutions, 12.63% (200 respondents) with foreign enterprises, 2.72% (43 respondents) with private enterprises, and 2.08% (33 respondents) with government departments. Regarding monthly salary offered by your employer, the sample size of the respondents with a monthly salary of 3,000-4,000 yuan was the largest, accounting for 26.66% (422 respondents); those with a monthly salary of less than 3,000 yuan took up 23.18% (367 respondents); those with a monthly salary of 4,000-5,000 yuan accounted for 14.72% (233 respondents), those with a monthly salary of 5,000-6,000 yuan took up 7.71% (122 respondents), and those with a monthly salary of more than 6,000 yuan accounted for 7.26% (115 respondents). Regarding the number of interviews, 47.06% (745 respondents) of the total sample had attended one to three interviews; those who had attended four to six interviews took up 17.94% (284 respondents); those who had been interviewed for more than six times accounted for 10.17% (161 respondents); and those who had never been interviewed took up 4.36% (69 respondents). Seen from the “job location of your organization”, 31.9% (505 respondents) of the total sample would work in counties, county-level cities or county-level administrative regions, 23.25% (368 respondents) in provincial capitals, 18.64% (295 respondents) in prefecture-level cities, 4.49% (71 respondents) in townships, 0.88% (14 respondents) in other places, and 0.38% in villages (6 respondents).

Table 3.4 Descriptive analysis of the employment status of T1 online survey sample (N=2,724)

Title	Category	Percentage (%)	Cumulative percentage (%)
1. Current employment status	1. I have found a job.	46.22	46.22
	2. I am still looking for a job.	49.04	95.26
	3. I will pursue graduate study.	3.41	98.67
	4. I will start my own business.	1.32	99.99
2. If you have found a job, how many job offers have you got as of today?	1	22.87	43.34
	2	25.39	68.73
	3	18.32	87.05
	4	5.12	92.17
	5	1.90	94.06
	More than 5	5.94	100.00
3. Nature of your organization:	1. SOE	29.56	50.03
	2. Private enterprise	2.72	52.75
	3. Foreign enterprise (including joint venture)	12.63	65.38
	4 Public institution	18.83	84.21
	5. Government department	2.08	86.29

Title	Category	Percentage (%)	Cumulative percentage (%)
Your monthly salary before tax	6. Other	13.71	100.00
	Below 3000 yuan	23.18	43.65
	3000-4000 yuan	26.66	70.31
	4000-5000 yuan	14.72	85.03
	5000-6000 yuan	7.71	92.74
	More than 6000 yuan	7.26	100.00
The number of interviews you have attended	0	4.36	24.83
	1-3 times	47.06	71.89
	3-6 times	17.94	89.83
	More than 6 times	10.17	100.00
Job location of your organization	Provincial capital	31.90	52.37
	Prefecture-level city	18.64	71.00
	County, county-level city or county-level administrative region	23.25	94.25
	Township	4.49	98.74
	Village	0.38	99.12
	Other	0.88	100.00

3.2 Sample and procedure of T2 survey

Because the sample of T1 survey had graduated for two years, and most of the graduates were distributed in various provinces, cities, counties, townships and villages across China, and some were even in other countries outside of China, it would take a long time to complete the survey through paper-pencil questionnaires. Therefore, T2 survey was conducted using web-based questionnaires only. The target sample was the participants of T1 survey from the normal university in southwest China.

T2 survey was conducted on the campus of the normal university from the beginning of June to the end of July 2021, with an interval of two years from T1 survey. The survey was aimed at figuring out such dimensions as respondents' satisfaction with employment outcomes and career adaptability. The details of the questionnaire can be found in Annex B. Before the formal survey, the researcher first expressed gratitude to the 2019 graduates who completed T1 survey questionnaire for their support through the QQ groups and WeChat groups of each school/college/faculty and each class. Then he introduced the purpose, significance, and value of T2 online survey and encouraged all students to actively participate in this survey. During the survey, the counsellors and headteachers of each school sent a total of 267 web-based questionnaire links to the QQ groups and WeChat groups of each class. Besides, 18 student volunteers were hired to compare each of the student numbers of the respondents of T1 survey to the email address, phone number, QQ number and WeChat account of each of those who were willing to participate in T2 survey. Meanwhile, 12 student volunteers made a total of 1,973 calls

in turn, sent a total of 679 emails with the link of the web-based questionnaire, and sent the web link of the questionnaire to 759 WeChat accounts. Besides, a total of 963 cell phone messages and multimedia messages were sent to respondents with the link of the web-based questionnaire. With the above efforts, finally 638 valid questionnaires were recovered in the anonymous web-based questionnaire survey involving the 2,256 graduates who participated in T1 survey. After a one-to-one match for the data collected in T1 paper survey and T2 survey based on student numbers, finally 268 valid questionnaires were obtained, with a valid questionnaire recovery rate of 41%.

3.3 Measures

This study adopted the questionnaire survey method to collect data, and the questionnaires were filled out by the respondents themselves. The basic constructs of the questionnaires used for the two waves of survey were the same. Both consisted of three parts, namely instructions, basic information and main contents, of which instructions were the same for both questionnaires. However, due to differences in the respondents, the basic information and main contents were different to some extent. The instructions are intended to inform respondents of the source and purpose of the questionnaires and provide guidance on how the respondents should fill in the questionnaires.

The basic information in T1 survey questionnaire included gender, place of residence, parents' level of education, parents' occupation and average monthly household income. The main contents of the questionnaire consisted of 17 items describing the employability of graduates as well as 16 items measuring their emotional intelligence and items reflecting employment outcomes.

The basic information of the second questionnaire included gender, marital status, current employment status, nature of organization, job location and salary. The main contents of the questionnaire consisted of 24 items describing the characteristics and behaviours of career adaptability as well as nine items describing the person-job fit.

The six-point Likert scale was used for the design of the first and second questionnaires to reflect the respondents' degree of agreement with the items. Specifically, the six options are "strongly disagree/dissatisfied - disagree/dissatisfied - slightly disagree/dissatisfied - slightly agree/satisfied - agree/satisfied – strongly agree/satisfied", respectively.

3.3.1 Measurement of graduate employability by T1 survey

This study adopted the definition and scale of graduate employability by S. Z. Ma et al. (2012).

The scale measures the employability of graduates from the students' perspective. Specifically, employability is composed of three dimensions, namely "job-hunting skills" (three items), "self-marketing skills" (four items) and "social skills" (four items) with a total of 11 items. In addition to these 11 items, this study added three additional items about employment and job seeking ("I know what kind of job I am suitable for", "I collect job information through multiple channels", and "I have a clear job objective") as well as three other item ("I am able to acquire new knowledge and skills quickly in a formal and informal learning environment", "I am good at building relationships with others", and "I am able to adapt to changes in the environment").

Details of the specific process of reliability and validity tests of CGES are described in Chapter 4 (Results and Discussions).

3.3.2 Measurement of emotional intelligence

In this study, emotional intelligence was measured using the Chinese version of the Emotional Intelligence Scale developed by Wong and Law (2002). The scale consists of four dimensions of emotional intelligence (appraisal and expression of emotion in the self (self-emotion appraisal [SEA], appraisal and recognition of emotion in others (others' emotion appraisal [OEA], regulation of emotion in the self (regulation of emotion [ROE] and use of emotion to facilitate performance (use of emotion [UOE]), with a total of 16 items. Examples of the items include of "I have good understanding of my own emotions" and "I am quite capable of controlling my own emotions."

Amos 22.0 software was used for a CFA of the constructs of emotional intelligence in both T1 and T1 questionnaires. The overall model fit indices met the fit indices often used for model fit criteria ($\chi^2(244.079) = 98, p < 0.001$, GFI = 0.897, RMSEA = 0.076, CFI = 0.943, SRMR = 0.052), and the factor structure was consistent with the original scale. The reliability coefficient value was 0.931, which was greater than 0.9, indicating high reliability and high quality of the survey data.

3.3.3 Measurement of family socioeconomic status

To explore the relationship between graduates' family socioeconomic status and their employability, the following five items were designed, covering the place of residence, parents' level of education, average monthly household income and parents' occupations.

1. Your place of residence before you went to college:
 - (1) Rural areas
 - (2) County (county-level city or county-level administrative region)

- (3) Provincial city or municipality directly under the central government
2. Your parents' level of education (the higher level of education between the two):
 - (1) Middle school education or below
 - (2) High school education
 - (3) Junior college education
 - (4) College education or above
3. Your household's average monthly income is approximately:
 - (1) Below 2,000 yuan (2) 2,000-4,000 yuan (3) 4,000-6,000 yuan
 - (4) 6,000-8,000 yuan (5) 8,000-10,000 yuan (6) Above 10,000 yuan
4. Your father's occupation:
 - (1) Farmer (2) Worker (3) Businessman (4) Civil servant
 - (5) Employee of a public institution (6) Employee of a state-owned enterprise
 - (7) Employee of a private enterprise
 - (8) Employee of a foreign company (Sino-foreign joint venture)
 - (9) Other_____
5. Your mother's occupation:
 - (1) Farmer (2) Worker (3) Businesswoman (4) Civil servant
 - (5) Employee of a public institution (6) Employee of a state-owned enterprise
 - (7) Employee of a private enterprise
 - (8) Employee of a foreign company (Sino-foreign joint venture)

The self-designed Family Socioeconomic Status of this study had sound reliability and validity. The reliability coefficient value was 0.788, which was greater than 0.7, indicating that the reliability of the survey data was good and that the survey data could be used for further analysis. In addition, its average variance extracted (AVE) was 0.57, while the compositional reliability (CR) was 0.86.

3.3.4 Measurement of employment outcome satisfaction in T1 survey

This study designed two items including job satisfaction and person-job fit to measure graduates' satisfaction with their first employment outcome. The two items are specified as follows.

1. Your overall evaluation of satisfaction with the job you found:
 - (1) Strongly dissatisfied (2) Dissatisfied (3) Slightly dissatisfied
 - (4) Slightly satisfied (5) Satisfied (6) Strongly satisfied
2. You think you found a job suitable for you:

- (1) Strongly disagree (2) Disagree (3) Slightly disagree
(4) Slightly agree (5) Agree (6) Strongly agree

The self-constructed Employment Outcome Satisfaction Scale consisting of the two items of job satisfaction and job fit obtained in this study had good reliability. The reliability coefficient value was 0.738, which was greater than 0.7, indicating that the quality and reliability of the survey data was good. Since the above analysis involved only two items, it was not possible to examine the Cronbach's α that had been removed. In summary, the reliability coefficient value of the data was higher than 0.7, indicating that the data were highly reliable and could be used for further analysis. The AVE was 0.80, while the CR was 0.88. All corresponding AVE values were greater than 0.5, and all CR values were higher than 0.7, implying that the data of this analysis had good convergent validity.

3.3.5 Measurement of person-organization fit in T2 survey

The measures of person-organization fit in this study were derived from Cable and DeRue (2002), including Person-Organization Fit (three items), Needs-Supplies Fit (three items), and Demands-Abilities Fit (three items), with a total of nine items. The EFA analysis of the Employability Scale was conducted using principal component analysis (PCA). The KMO was 0.890, which was greater than 0.6 and met the requirement of factor analysis, implying that the data could be used for factor analysis research. Besides, the data passed the Bartlett's test of sphericity ($p < 0.05$), indicating that the survey data were suitable for factor analysis. The factor loading of Item 4 was 0.559 in Factor 1 and 0.6431 in Factor 3; the factor loading of Item 7 was 0.660 in Factor 1 and 0.589 in Factor 2; the factor loading of Item 8 was 0.62 in Factor 1 and 0.603 in Factor 2; and the factor loading of Item 9 was 0.653 in Factor 1 and 0.476 in Factor 2. These factor loadings were all greater than 0.4. Therefore, Items 4, 7, 8, and 9 were deleted (Item 4: The match is very good between the demands of my job and my personal skills; Item 7: There is a good fit between what my job offers me and what I am looking for in a job; Item 8: The attributes that I look for in a job are fulfilled very well by my present job; and Item 9: The job that I currently hold gives me just about everything that I want from a job.). After deleting the above four items, the communalities of all the remaining items were higher than 0.4, indicating that the information of the items can be extracted effectively.

Amos 22.0 software was used to conduct CFA of the constructs of the Person-Organization Fit Scale, and the overall model fit indices met the fit indices often used for model fit criteria ($\chi^2(8.309) = 2.077$, $p < 0.001$, GFI = .988, RMSEA = .064, CFI = .996, SRMR = .027). It can

be seen from Table 3.5 (Reliability analysis of person-organization fit in T2 survey) that the Cronbach's α was 0.873, which was greater than 0.8, indicating high reliability of the survey data. In summary, the reliability coefficient value of the survey data was higher than 0.8.

In addition, the AVE of Factor 1 (Person-Organization Fit) of the scale in this study was 0.778, while the CR value was 0.913. The AVE of Factor 2 (Needs-Supplies Fit) of the scale in this study was 0.843, while the CR value was 0.915. Both the AVE values corresponding to the two factors were greater than 0.5 and both the CR values were higher than 0.7, implying that the data of this analysis had good convergent validity. In summary, the data had a high degree of reliability and could be used for further analysis.

Table 3.5 Reliability analysis of person-organization fit in T2 survey

Item	Cronbach's α	Overall Cronbach's α	AVE	CR
The things that I value in life are very similar to the things that my organisation values.	0.911	0.873	0.778	0.913
My personal values match my organization's values and culture.				
My organization's values and culture provide a good fit with the things that I value in life.				
My abilities and training are a good fit with the requirements of my job.	0.913		0.843	0.915
My personal abilities and education provide a good match with the demands that my job places on me.				

3.3.6 Measurement of career adaptability in T2 survey

The measure of career adaptability was based on the scale put forward by Z. J. Hou et al. (2012) in their paper entitled "Career Adapt-Abilities Scale - China Form: Construction and Initial Validation". The scale consists of 24 items, such as "investigating options before making a choice". Based on the EFA results, four items were deleted (Q1: Thinking about what my future will be like; Q2. Realizing that today's choices shape my future; Q3. Preparing for the future; and Q7. Keeping upbeat.).

As shown in Table 3.6, the AVE was 0.73, the CR value 0.98, and the Cronbach's α 0.98, which was greater than 0.9, indicating high reliability of the survey data.

Table 3.6 Reliability analysis of career adaptability in T2 survey

Item	Cronbach's α	AVE	CR
Becoming aware of the educational and career choices that I must make	0.981	0.725	0.981
Planning how to achieve my goals			
Concerned about my career			
Making decisions by myself			
Taking responsibility for my actions			
Sticking up for my beliefs			
Counting on myself			
Doing what's right for me			
Exploring my surroundings			
Looking for opportunities to grow as a person			
Investigating options before making a choice			
Observing different ways of doing things			
Probing deeply into questions I have			
Becoming curious about new opportunities			
Performing tasks efficiently			
Taking care to do things well			
Learning new skills			
Working up to my ability			
Overcoming obstacles			
Solving problems			

3.3.7 Control variables

In T1 survey, this study selected gender, major, certificates obtained during undergraduate years, scholarships received during undergraduate years and average ranking of academic performance in the class during the four undergraduate years as control variables in the “Questionnaire on the Employment Status of 2019 Fresh Graduates of Chinese Higher Education Institutions (T1)”, where “student number” is an optional item.

In T2 survey, this study selected marital status, number of employees in organization, nature of the organization, level of post in the organization, job location and salary as control variables in the “Questionnaire on the Employment Status of 2019 Fresh Graduates of Chinese Higher Education Institutions (T2)”. For example, options of the “job location of your organization” include: (1) Provincial capital, (2) Prefecture-level city; (3) County (county-level city or county-level administrative region); (4) Village (town), and (5) Rural area.

3.4 Quality control

Data were entered by two operators who cross checked each other's work to ensure the accuracy of the entered data. Logical check was performed after entry to avoid human error, while missing values and outliers were dealt with.

3.5 Outlier detection

Given the large number of web-based questionnaires and the small number of missing values in T1 online survey, the GLOSH outlier detection algorithm was used to screen the sample. As a result, 300 questionnaires were removed, and 2,724 web-based questionnaires retained. The data were divided into two equal parts according to parity of sequence numbers. Specifically, the even sample ($n=1,362$) was used for EFA, while the odd sample ($n=1,362$) used for CFA. EFA focuses on exploring the factor-measure (scale item) interrelationships and serves to validate scale validity, while CFA focuses on validation of constructs. The two data treatments can validate the maturity of scales. Given the many missing values in the 2,556 questionnaires recovered in T1 survey based on paper-pencil questionnaires and the 628 questionnaires recovered after one-to-one matching between T1 paper-pencil questionnaire and T2 web-based questionnaire, the questionnaires with more than 50% of missing values were removed. According to this principle, 300 questionnaires were removed from T1 paper-pencil questionnaires, and 2,256 questionnaires were retained. Besides, 360 out of the 628 questionnaires recovered after one-to-one matching were removed, leaving 268 valid questionnaires.

3.6 Statistical methods

Statistical analysis of the data of this study were conducted using SPSS 20.0 and AMOS 17.0 software. Specifically, SPSS 20.0 was used for statistical related theoretical analyses, including EFA, correlation analysis, variance analysis, and regression analysis. AMOS 17.0 was used primarily for CFA.

Chapter 4: Results

The results in this chapter include validation of the CGES in T1 survey and an empirical study of the antecedents and outcome variables of employability in T2 survey. The former consists of EFA and CFA of the web-based questionnaires, while the latter consists of correlation analysis, variance analysis, and regression analysis of the matched questionnaires of T1 paper survey and T2 survey.

4.1 T1 Survey: Validation of the CGES

Reliability refers to the consistency of a measure, i.e., whether the results reflect the stable and consistent true characteristics of the test subjects when the questionnaire is used to measure the same thing repeatedly. In this study, the internal consistency reliability coefficients are used to evaluate the reliability of the questionnaires.

Validity refers to the extent to which a measurement tool can correctly measure the nature of what it is intended to measure, i.e., the correctness of the measurement result or the extent to which the target construct can be accurately measured by the measurement tool. The more the test results reflect the content of the target construct, the higher the validity, and vice versa. Based on content distribution, there are three types of validity, namely content validity, construct validity, and empirical validity (Qiu, 2009). Content validity is a measure of whether the items in a questionnaire truly measure the content of the study that is intended to be measured. It is also known as face validity or logical validity (Qiu, 2009). Empirical validity is used to measure whether the data obtained from the questionnaire are consistent with existing theories. It can also be called criterion validity or predictive validity. When using empirical validity analysis, the first step is to select an indicator based on existing theories as the validity criterion. Then use the data obtained from the survey to analyse how close the questionnaire item is to the validity criterion. The closer it is to the validity criterion, the more significant correlation there is between the item and the criterion, which means that the validity of the item is high. The validity of an item can also be judged by significant differences from the different values and characteristics of the validity criterion. If the difference is significant, then the validity is high. However, the most difficult part of validity analysis is choosing a reasonable and appropriate validity criterion. So, there are limitations to the application of this method.

The present study adopted satisfaction with employment outcome and person-job fit as criterion variables to test criteria of the CGES.

In this study, the data of the 2,724 valid web-based questionnaires obtained from T1 survey were divided into two equal parts according to the parity of the sequence numbers, with the even part (n=1,362) used for EFA and the odd part (n=1,362) used for CFA to measure the validity of the CGES.

4.1.1 Exploratory factor analysis of the CGES

It can be seen from Table 4.1 that the web-based questionnaires of T1 survey verified the validity of the CGES. Before conducting CFA of the CGES, the researcher conducted EFA of the even-numbered part (n=1,362) of the web-based sample in T1 survey. The data were first analysed to confirm whether they were suitable for factor analysis, and the KMO and Bartlett's test of the scale data were used to verify whether factor analysis could be used. Factor analysis can be conducted when the KMO is close to 0.7 and not greater than 0.6 and the Bartlett's test of sphericity is significant. The KMO turned out to be 0.907, which was greater than 0.6 and met the prerequisite for factor analysis, meaning that the data could be used for factor analysis. Besides, the data passed the Bartlett's test of sphericity ($p < 0.05$), indicating that the data were suitable for factor analysis.

Table 4.1 Reliability analysis of employability in T1 online survey (N = 1,362)

	Factor loading		
	1 Job-hunting skills	2 Self-marketing skills	3 Social skills
1. I think about the influences on others when I make decisions.			,620
2. I have good relationships with my classmates.			,732
3. I am quick at learning new things.		,379	,693
4. I can adjust myself to different environments.		,360	,672
5. I have strong oral communication skills.		,812	
6. I am able to persuade others.		,762	
7. My outgoing personality helps me in job hunting.		,812	
8. I am good at presenting myself.		,827	
9. I prepare my CV based on job requirements to highlight my suitability for the job.	,612		
10. I have a clear career plan.	,788		
11. I know what kind of job I am suitable for.	,795		
12. I have a good understanding of the position I will be interviewed for before the interview.	,761		
13. I collect job information through multiple channels.	,698		
14. I have a clear job objective	,822		
Eigen value (Unrotated)	6.245	1.645	1.190
% of variance (Unrotated)	44.606%	11.747%	8.500%
Cumulative % of variance (Unrotated)	44.606%	56.353%	64.853%

Principal component analysis (PCA) revealed that the communalities of items 15 and 16 were less than 0.4, while the factor loading of item 17 was 0.581 on Factor 1 and 0.431 on Factor 3, both of which were greater than 0.4. Therefore, items 15, 16 and 17 were removed. After the above three items were removed, the commonality values of all the remaining items were higher than 0.4, indicating that the information on the items could be extracted effectively.

The factor extraction and the amount of information extracted from the factors were analysed. It can be seen from the factor loadings of employability in Table 4.1 that factor analysis extracted a total of three factors with eigen values greater than 1. The %s of variance (rotated) of these three factors were 26.664%, 22.287% and 15.902%, respectively, and the cumulative % of variance (rotated) was 64.853%.

Based on the content of the items in the CGES, the three principal factors were identified and named as “social skills (Factor 1)”, “self-marketing skills (Factor 2)”, and “job-hunting skills (Factor 3)”. Table 4.1 shows that the factor loadings of all the items are greater than 0.7, except for Items 1, 3, 4 and 9, which are close to 0.7, indicating that the scale has good convergent validity.

4.1.2 Confirmatory factor analysis of the CGES

CFA of the constructs of the CGES in the odd-numbered part ($n=1,362$) of the web-based questionnaires was conducted using Amos 22.0 software. CFA was conducted on a total of three factors and 14 items. The valid sample size for this analysis was 1,362, exceeding the number of items by ten times. In other words, the sample size was appropriate.

Whether the overall model fit indices meet the model fit criteria is commonly tested using the following fit indices: degrees of freedom in a chi square distribution (Chi-Square/DF), CFI, RMSEA, GFI and standardized root mean square residual (SRMR). CFA results showed reasonably good fit for the three-factor model (Figure 4.1). The model χ^2 was 617.43 ($df=398$), the standardized RMR was .05, CFI was .94, TLI was .93, and RMSEA was .07. These results indicated good convergent and discriminant validity between the CGES dimensions. The factor structure was consistent with that of the original scale introduced by S. Z. Ma et al. (2012).

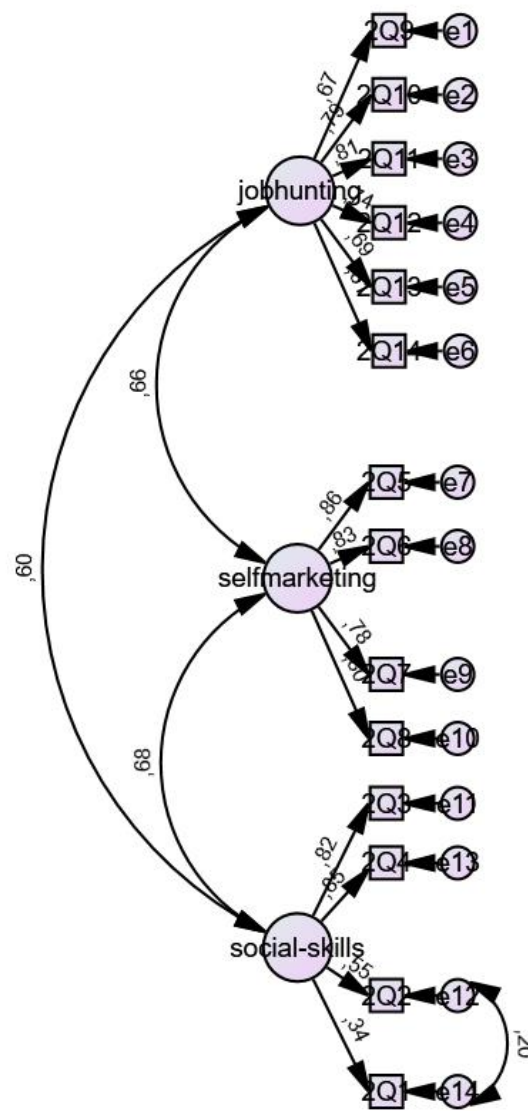


Figure 4.1 The three-factor model of employability

4.2 Empirical study of employability

4.2.1 Reliability test of the employability construct in the matched questionnaires of T1 paper sample and T2 sample

CFA of the construct employability in the matched questionnaires of T1 paper survey and T2 survey was carried out using Amos 22.0 software. To further validate the convergent and discriminant validity of CGES, CFA was conducted with the matched samples of 268 from T1 paper sample and the T2 sample.

CFA results showed good fit for the three-factor model (Figure 4.2): ($\chi^2(208.158/74) = 2.813, p < .001$; CFI = .93, TLI = .90, RMSEA = .08, SRMR = .05), and the factor structure was consistent with that of the T1 sample.

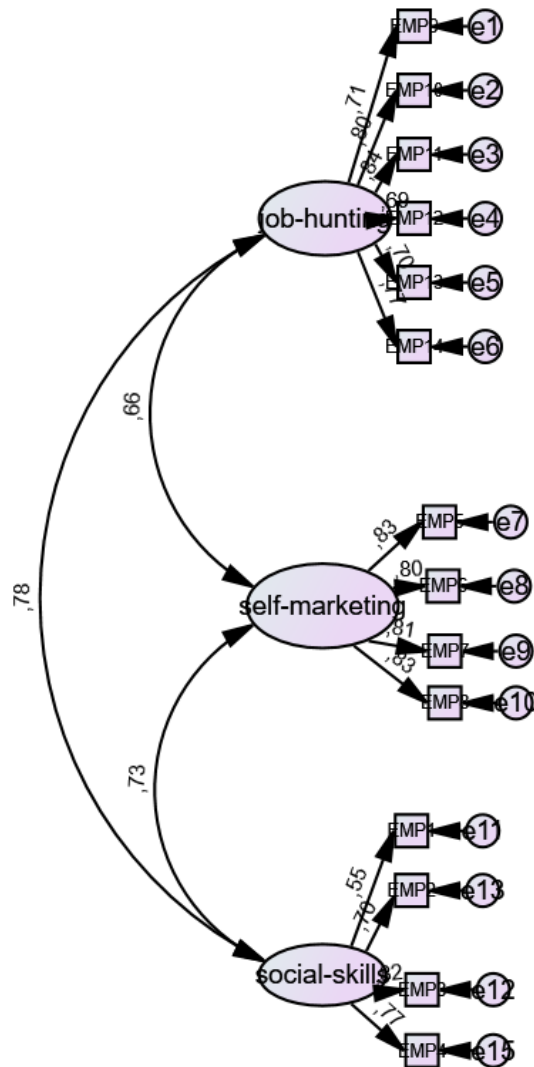


Figure 4.2 The three-factor model of employability (n=268)

Reliability analyses were conducted of the matched questionnaires of T1 paper survey and T2 survey, with the results shown in Table 4.2. Specifically, the Cronbach's α of employability was 0.902, which was greater than 0.9, indicating high reliability of the research data. The Cronbach's α of social skills factor was 0.719, which was greater than 0.7, indicating good reliability of the research data. The Cronbach's α of self-marketing skills factor was 0.882, which was greater than 0.8, indicating high reliability of the research data.

Table 4.2 Reliability of employability of the matched questionnaires of T1 paper survey and T2 survey (N=268)

Item	Cronbach's α	Cronbach's α of employability	AVE	CR
1. I think about the influences on others when I make decisions.	0.71	0.90		
2. I have good relationships with my classmates.			0.46	0.75
3. I am quick at learning new things.				
4. I can adjust myself to different environments.				
5. I have strong oral communication skills.	0.88		0.67	0.88
6. I am able to persuade others.				
7. My outgoing personality helps me in job hunting.				
8. I am good at presenting myself.				
9. I prepare my CV based on job requirements to highlight my suitability for the job.	0.88		0.56	0.88
10. I have a clear career plan.				
11. I know what kind of job I am suitable for.				
12. I have a good understanding of the position I will be interviewed for before the interview.				
13. I collect job information through multiple channels.				
14. I have a clear job objective				

In addition, the CRs of social skills, self-marketing skill, and job-hunting skills were 0.75, 0.88, and 0.88, while the average variances extracted (AVEs) of these factors were 0.46, 0.67, and 0.57, respectively.

In summary, the Cronbach's α of CGES measure in this sample was above 0.8, indicating that the research data were of high reliability and could be used for further analysis.

4.2.2 Descriptive statistical analysis of the matched questionnaires of T1 paper survey and T2 online survey

After a one-to-one match of T1 paper-pencil questionnaires (N=2,256) and T2 web-based questionnaires (N=628), 268 questionnaires were identified as valid responses. Table 4.3 provides a descriptive analysis of the corresponding sample. Seen from gender distribution, the majority (73.88%, 198 respondents) of the sample were female, while only 26.12% (70 respondents) were male. In terms of marital status, 91.79% (246 respondents) were unmarried, and only 8.21% (22 respondents) were married. As to employment status, 48.88% (131 respondents) of the sample were still working in the organizations they signed contracts with upon graduation; 34.33% (92 respondents) had changed their organizations; others (such as those who were unemployed or those who were preparing for postgraduate entrance exams) accounted for 8.58% (23 respondents); 4.88% (12 respondents) had started their own business;

and 3.77% (10 respondents) pursued graduate study after college graduation. Regarding average monthly household income, a relatively big percentage (38.06%, 102 respondents) of the sample had a monthly income of 2,000-4,000 yuan, 24.63% (66 respondents) 4,000-6,000 yuan; 11.94% (32 respondents) less than 2,000 yuan, 11.19% (30 respondents) 6,000-8,000 yuan, 10.45% (23 respondents) 8,000-10,000 yuan, and 3.73% (10 respondents) more than 10,000 yuan. Regarding the average ranking of academic performance in the class during the four undergraduate years, 33.96% (91 respondents) of the total sample ranked between the top 10% and the top 30%, 28.36% (76 respondents) between the top 30% and the 50%, 16.42% (44 respondents) between the top 50% and the top 70%, 14.55% (39 respondents) among the top 10%, and only 6.34% (17 respondents) after the top 70%. Seen from the number of scholarships received during undergraduate years, those who never received any scholarship accounted for the largest percentage (57.46%, 154 respondents) of the total sample; 30.97% (83 respondents) received scholarships once to three times, 8.21% (22 respondents) four to six times, 2.67% (seven respondents) seven to nine times, and only 0.37% (1 respondent) ten times or more. In terms of the distribution of majors, most of the sample (72.76%, 175 respondents) majored in the category of humanities and social sciences, and 27.24% (75 respondents) majored in the category of science, engineering, agriculture, and medicine.

Table 4.3 Descriptive statistics of the matched questionnaires of T1 paper survey and T2 survey (N=268)

Title	Category	Frequency	Percent (%)	Cumulative percentage (%)
Gender	Male	70	26.12	26.12
	Female	198	73.88	100.00
Marital status (T2 survey)	Unmarried	246	91.79	91.79
	Married	22	8.21	100.00
Employment status (T1 survey)	I am still working in the organization I signed contract with upon graduation.	131	48.88	48.88
	I have changed my organization.	92	34.33	83.21
	I pursued graduate study after college graduation.	10	3.73	86.94
	I started my own business	12	4.48	91.42
	Other	23	8.58	100.00
Average monthly household income (T1 survey)	Below 2,000 yuan	32	11.94	11.94
	2,000-4,000 yuan	102	38.06	50.00
	4,000-6,000 yuan	66	24.63	74.63
	6,000-8,000 yuan	30	11.19	85.82
	8,000-10,000 yuan	28	10.45	96.27
	Above 10,000 yuan	10	3.73	100.00

Title	Category	Frequency	Percent (%)	Cumulative percentage (%)
Average ranking of academic performance in the class during the four undergraduate years (T1 survey)	Top 10%	39	14.55	14.55
	10%-30%	91	33.96	48.51
	30%-50%	76	28.36	76.87
	50%-70%	44	16.42	93.28
	After 70%	17	6.34	99.63
Number of scholarships received during undergraduate years (T1 survey)	Never	154	57.46	57.46
	1-3 times	83	30.97	88.43
	4-6 times	22	8.21	96.64
	7-9 times	7	2.61	99.25
	10 times or more	1	0.37	99.63
Discipline	Humanities and social sciences	195	72.76	72.76
	Science, engineering, agriculture and medicine	73	27.24	100.00

4.2.3 Correlation analysis

Table 4.4 shows the results of the analysis of correlations between employability and 15 variables, including the three dimensions of CGES measure, namely job-hunting skills, self-marketing skills, social skills. The Pearson correlation coefficient r is used to indicate the strength of the correlations.

The coefficient values of the correlations between employability and the eight indicators, namely job-hunting skills, self-marketing skills, social skills, emotional intelligence, satisfaction with employment outcome, career adaptability, academic performance during undergraduate years, and scholarships received during undergraduate years were significant. Specifically, employability and job-hunting skills were significantly correlated ($r = .90$, $p < .001$). Similarly, employability was significantly correlated with self-marketing skills ($r = .74$, $p < .001$), and was also significantly correlated with social skills ($r = .71$, $p < .001$). Taken together, the results indicated a strong and positive correlation between employability and its three dimensions – job-hunting skills, self-marketing skills, and social skills.

It is interesting to note that the three dimensions of CGES measure were all strongly correlated (ranging from $r = .60$ to $.68$), which well indicated that they were related, but not identical dimensions. Specifically: job-hunting skills was strongly correlated with both self-marketing skills ($r = .60$, $p < .001$) and social skills ($r = .68$, $p < .001$); self-marketing skills was strongly correlated with social skills ($r = .60$, $p < .001$). These results provided the primary convergent and discriminant evidence for CGES dimensions.

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Table 4.4 Correlation analysis

	Mean	S. D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Employability	4.50	.68	1															
2. Job hunting skills	4.69	.66	.90***	1														
3. Self-marketing skills	4.27	.85	.74***	.60***	1													
4. Social skills	4.49	.72	.71***	.68***	.60***	1												
5. Emotional intelligence	4.62	.69	.65***	.66***	.53***	.64***	1											
6. Family socioeconomic status	2.26	1.12	.03	-.06	.09	-.04	-.05	1										
7. Satisfaction with employment outcome	4.11	.68	.33***	.38***	.22***	.29***	.35***	-.09	1									
8. Person-organization fit	4.02	.91	.12	.13*	.13*	.11	.06	.02	.21***	1								
9. Career adaptability	4.50	.86	.13*	.19**	.20***	.16**	.13*	-.01	.02	.49***	1							
10. Gender			.04	.03	-.06	.08	.12	-.05	-.06	-.02	-.05	1						
11. Marital status			-.05	0	-.01	-.07	0	.01	-.01	.09	-.01	.15*	1					
12. Major			-.03	.05	.06	-.03	-.02	.25***	-.10	.08	.17**	-.06	-.06	1				
13. Employment status			.04	.02	.06	0	.02	.03	-.11	.16*	.13*	-.07	.01	.13*	1			
14. Average monthly household income			.09	.06	.16**	.05	.07	.64***	-.01	.06	.05	-.09	.10	-.29***	.12*	1		
15. Ranking of academic performance in the class during the four undergraduate years			-.15*	-.17**	-.14*	-.19**	-.12*	.07	-.04	0	.03	-.29***	-.08	-.09	.08	.10	1	
16. Number of scholarships received during undergraduate years			.13*	.09	.03	.09	-.04	.01	0	0	.10	.04	.05	-.03	-.07	-.03	-.29***	1

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Employability and emotional intelligence were significantly associated ($r = .65, p < .001$). Employability was significantly related to satisfaction with employment outcome ($r = .33, p < .001$), and was also significantly related to career adaptability ($r = .13, p < .05$). Employability and ranking of academic performance in the class during the four undergraduate years was significantly related ($r = -.15, p < .05$). Employability and number of scholarships received during undergraduate years was significantly related ($r = .13, p < .05$). Taken together, the results indicated a strong and positive link between employability and the four variables, namely, emotional intelligence, satisfaction with employment outcome, career adaptability, and number of scholarships received during undergraduate years, as well as a strong and negative correlation between employability and ranking of academic performance in the class during the four undergraduate years. Apart from this, the correlation between employability and the seven indicators, namely family socioeconomic status, person-organization fit, gender, marital status, major, employment status, and average monthly household income, were not significant ($p > .05$), implying that there were no significant relations between employability and these seven indicators.

4.2.4 Comparing research variables by demographic variables

Based on the grouping of demographic variables, independent samples t-test (two groups) and one-way ANOVA (more than two groups) were used in this study to test the influences of demographic variables on each of the research variables. During the independent samples t-test, homogeneity of variance was tested first. If homogeneity of variance was satisfied ($p > .05$), then the means were tested to see if there were significant differences. While conducting a one-way ANOVA, the researcher first observed whether there was a significant difference in the population variance of the variables ($p < .05$). If yes, an overall homogeneity of variance test needed to be carried out. If homogeneity of variance ($p > .05$) was satisfied, then the results of LSD between groups t-test should be used to determine whether there was a significant difference in the means. Independent sample t-tests were conducted for gender, marital status and major, and one-way ANOVA was used for the remaining demographic variables.

4.3 Independent samples t-test on gender

Homogeneity of variance test was used to test whether there were significant differences in the variances (standard deviations) of the data of each group. The results showed that there were no significant differences ($p > .05$) in the variances of employability, emotional intelligence,

family socioeconomic status, satisfaction with employment outcome, person-organization fit and career adaptability between the groups of two different genders. Similarly, there were no significant differences ($p > .05$) in employability, emotional intelligence, family socioeconomic status, satisfaction with employment outcome, person-organization fit and career adaptability between the two groups with different marital statuses. Therefore, independent samples t-test could be performed to test the possible differences across gender and marital status on research variables.

T-test results are reported in Table 4.5. There were significant differences in emotional intelligence between groups of different genders. Specifically, the emotional intelligence of female respondents (mean = 4.67, SD = 0.65) was marginally higher ($p = .5$) than that of male respondents (mean = 4.48, SD = 0.77). However, there were no significant differences in employability, emotional intelligence, family socioeconomic status, satisfaction with employment outcome, and career adaptability between groups of different genders.

Regarding different major groups, a significant difference was observed in career adaptability between groups with different majors. Specifically, the level of career adaptability of respondents majoring in science, engineering, agriculture, and medicine (mean=4.27, SD=1.03) was significantly ($p = .01$) lower than those of respondents majoring in humanities and social sciences (mean=4.59, SD=0.76). There were no significant differences in the four variables, namely employability, emotional intelligence, satisfaction with employment outcome and person-organization fit, among groups with different majors.

Table 4.5 Results of t-tests by demographic variables

	Gender (Mean $\pm$ S.D.)		<i>t</i>	<i>p</i>
	Male (<i>n</i> =70)	Female (<i>n</i> =198)		
Employability	4.45 $\pm$ 0.79	4.52 $\pm$ 0.63	-0.70	.49
Emotional intelligence	4.48 $\pm$ 0.77	4.67 $\pm$ 0.65	-1.94 ⁺	.05
Family socioeconomic status	2.36 $\pm$ 1.13	2.22 $\pm$ 1.12	0.88	.38
Satisfaction with employment outcome	4.18 $\pm$ 0.63	4.09 $\pm$ 0.70	0.90	.37
Career adaptability	4.58 $\pm$ 0.82	4.48 $\pm$ 0.87	0.86	.39
Person-organization fit	4.05 $\pm$ 0.77	4.00 $\pm$ 0.96	0.38	.71
Marital status (Mean $\pm$ S.D.)				
	Unmarried (<i>n</i> =246)	Married (<i>n</i> =22)	<i>t</i>	<i>p</i>
Employability	4.51 $\pm$ 0.69	4.39 $\pm$ 0.51	0.74	.46
Emotional intelligence	4.62 $\pm$ 0.71	4.62 $\pm$ 0.45	-0.03	.98
Family socioeconomic status	2.26 $\pm$ 1.13	2.28 $\pm$ 1.13	-0.09	.93
Satisfaction with employment outcome	4.12 $\pm$ 0.69	4.09 $\pm$ 0.60	0.18	.86
Career adaptability	4.51 $\pm$ 0.87	4.48 $\pm$ 0.71	0.13	.90

	Gender (Mean $\pm$ S.D.)		<i>t</i>	<i>p</i>
	Male (<i>n</i> =70)	Female (<i>n</i> =198)		
Person-organization fit	3.99 $\pm$ 0.92	4.30 $\pm$ 0.82	-1.52	.13
Major (Mean $\pm$ S.D.)				
	Science, engineering, agriculture and medicine (<i>n</i> =73)	Humanities and social sciences (<i>n</i> =195)	<i>t</i>	<i>p</i>
Employability	4.53 $\pm$ 0.72	4.49 $\pm$ 0.66	0.40	.69
Emotional intelligence	4.63 $\pm$ 0.64	4.61 $\pm$ 0.71	0.26	.80
Satisfaction with employment outcome	4.23 $\pm$ 0.58	4.07 $\pm$ 0.71	1.65	.10
Career adaptability	4.27 $\pm$ 1.03	4.59 $\pm$ 0.76	-2.76*	.01
Person-organization fit	3.90 $\pm$ 1.04	4.06 $\pm$ 0.86	-1.26	.21

Note: + < .1, * < .05

In short, t-test results show that female respondents reported marginal higher level of emotional intelligence than male respondents and respondents majored in humanities and social sciences demonstrated a higher level of career adaptability than those majored in science, engineering, agriculture or medicine.

No significant differences were reported in employability, emotional intelligence, family socioeconomic status, satisfaction with employment outcome, career adaptability and person-organization fit between groups with different marital statuses.

There were no significant differences ($p > .05$) in the five variables, namely employability, emotional intelligence, satisfaction with employment outcome, person-organization fit and career adaptability, between groups with different majors, implying that the groups with different majors showed equal variances in the above five variables, meeting the prerequisite (homogeneity of variance) for ANOVA. Therefore, independent samples t-test could be performed to test the influence of major on these five research variables. As there was a significant difference ($p < .05$) in family socioeconomic status between groups with different majors, independent samples t-test was not suitable to test the influence of major on family socioeconomic status.

In summary: the above results showed homogeneity of variance in employability, emotional intelligence, family socioeconomic status, satisfaction with employment outcome, person-organization fit and career adaptability between groups of different genders, between those with different marital statuses and between those with different majors. Among them, there was a significant difference ($p < .05$) in family socioeconomic status between groups with different majors, rendering independent samples t-test unsuitable. Alternatively, nonparametric

test was used to test the difference in average monthly household income between groups with different majors. Specifically, there were two major groups (the group majoring in science, engineering, agriculture or medicine and the group majoring in humanities or social sciences). Therefore, Mann-Whitney test statistic was used for analysis. The results showed a significant difference in average monthly household between the samples of two different majors ($p < .05$), implying that the two different major groups differed in average monthly household income.

Mann-Whitney test statistic was used for analysis and the results are reported in Table 4.6. Specifically, the difference in average monthly household income between the two major groups was significant at the level of 0.01 ($p = .000 < .001$). A comparison between the two medians showed that the median of the group majoring in humanities or social sciences (3.00) was significantly higher than that of the group majoring in science, engineering, agriculture or medicine (2.00). In other words, there was a significant difference in average monthly household income between samples of the two major groups.

Table 4.6 Nonparametric test analysis results

	Major Median (P25, P75)		Mann-Whitney test statistic U	Mann-Whitney test statistic score	p
	Science, engineering, agriculture and medicine ($n=73$)	Humanities and social sciences ($n=195$)			
Average monthly household income	2.00 (2.00, 2.00)	3.00 (2.00, 4.00)	4,281.50	-5.22	.000

Note: *** < .001

4.4 ANOVA Analyses

4.4.1 ANOVA results of employability by university type

The sample universities in this study were classified into five types for data analysis. In the first type, “Project 985” refers to the constructive project initiated by China’s Ministry of Education for founding a group of world-class universities and a group of world-renowned high-level research universities; “Project 211” is the Chinese government’s strategic policy implemented in the 1990s for the purpose of “strengthening about 100 institutions of higher education and key disciplinary areas as a national priority for the 21st century”; the “Double First Class”, which refers to the World First Class University and First Class Academic Discipline Construction, is China’s higher education development initiative aimed at comprehensively

developing elite Chinese universities into world-class institutions through developing and strengthening their individual faculty departments by the end of 2050. On September 21, 2017, China's Ministry of Education published the full list of the universities and their disciplines of the Double First-Class University Plan, according to which 140 universities have been approved as "Double First-Class Universities" by China's central government. Seen from the descriptive statistics in Table 4.7, respondents of the first type, consisting of "Project 985", "Project 211", and "Double First-Class" universities, accounted for 13.1% (651) of the sample.; respondents of the second type, consisting of normal universities, took up 51.45% (2,558) of the sample; respondents of the third type, consisting of universities jointly built by provincial governments and ministries, accounted for 3.76% (187) of the sample; respondents of the fourth type, consisting of general provincial universities, took up 4.61% (229) of the sample; and respondents of the fifth type, referring to private undergraduate universities, accounted for 27.08% (1,346) of the sample.

Table 4.7 ANOVA results of employability by university type

Analysis item Category	N	Mean	S.D.	F	p
Employability "Project 985", "Project 211", and "Double First-Class" universities	651	4.57	0.55		
Private undergraduate universities	1346	4.54	0.62		
General provincial universities	229	4.28	0.58		
Normal universities	2556	4.54	0.75	8.78	0.000
Universities jointly built by provincial governments and ministries	187	4.51	0.61		
Total	4969	4.53	0.68		

Note: *** < .001

Table 4.7 is the ANOVA results of employability by university type. The results showed that there were significant differences in employability among respondents who graduated from different types of universities ($F = 8.78$, $p < .001$).

The ANOVA results in Table 4.7 indicated significant differences in employability among respondents who graduated from different types of universities. The LSD method was used for further analysis and the results are in Table 4.8. Specifically, 1) the employability of respondents who graduated from "Project 985", "Project 211", and "Double First-Class" universities (mean = 4.57, SD = 0.55) was significantly higher ($p < .001$) than that of respondents who graduated from general provincial universities (mean = 4.28, SD = 0.58); 2) the employability of respondents who graduated from private undergraduate universities (mean = 4.54, SD = 0.62) was significantly higher ($p < .001$) than that of respondents who graduated from general provincial universities (mean = 4.28, SD = 0.58); 3) the employability of respondents who graduated from normal universities (mean = 4.54, SD = 0.75) was

significantly higher ($p < .001$) than that of respondents who graduated from general provincial universities (mean = 4.28, SD = 0.58); 4) and the employability of respondents who graduated from universities jointly built by provincial governments and ministries (mean = 4.51, SD = 0.61) was significantly higher ($p < .001$) than that of respondents who graduated from general provincial universities (mean = 4.28, SD = 0.58). No significant differences in employability were found between other pairs.

Table 4.8 Results of between-group comparisons of employability by university types using LSD method

	(I) Name	(J) Name	(I) Mean	(J) Mean	Mean difference (I-J)	p
Employability	"Project 985", "Project 211", Private and "Double First-Class" universities	Private undergraduate universities	4.57	4.54	0.03	.27
	"Project 985", "Project 211", General and "Double First-Class" universities	General provincial universities	4.57	4.28	0.29	.000
	"Project 985", "Project 211", and "Double First-Class" universities	Normal universities	4.57	4.54	0.03	.30
	"Project 985", "Project 211", and "Double First-Class" universities	Universities jointly built by provincial governments and ministries	4.57	4.51	0.06	.27
	Private undergraduate universities	General provincial universities	4.54	4.28	0.26	.000
	Private undergraduate universities	Normal universities	4.54	4.54	-0.01	.85
	Private undergraduate universities	Universities jointly built by provincial governments and ministries	4.54	4.51	0.03	.61
	General provincial universities	Normal universities	4.28	4.54	-0.26	.000
	General provincial universities	Universities jointly built by provincial governments and ministries	4.28	4.51	-0.23	.000
	Normal universities	Universities jointly built by provincial governments and ministries	4.54	4.51	0.03	.54

Note: *** $p < .001$

4.4.2 ANOVA results by household income

As family socioeconomic status overlaps with average monthly household income, this indicator was excluded from the analysis of the influence of average monthly household income on the research variables.

As can be seen from Table 4.9, one-way ANOVA was used to examine the differences in the five variables, namely employability, emotional intelligence, satisfaction with employment outcome, person-organization fit, and career adaptability among groups with different average monthly household income.

Table 4.9 ANOVA results by average monthly household income and related variables

Variable	Source of variation	Sum of squares	DF	Mean square	F value	p value
Employability	Between-groups	5.92	5	1.18	2.85	.02
	Within-group	85.58	206	0.42		
	Total	91.49	211			
Emotional intelligence	Between-groups	4.00	5	0.80	1.73	.13
	Within-group	97.49	211	0.46		
	Total	101.49	216			
Satisfaction with employment outcome	Between-groups	2.36	5	0.47	1.06	.38
	Within-group	96.45	217	0.44		
	Total	98.81	222			
Person-organization fit	Between-groups	3.35	5	0.67	0.77	.57
	Within-group	188.32	217	0.87		
	Total	191.68	222			
Career adaptability	Between-groups	2.85	5	0.57	0.77	.58
	Within-group	161.42	217	0.74		
	Total	164.27	222			

Note: * < .05

It can be seen from Table 4.9 above that there was significant difference in the level of employability among groups with different average monthly household income ($F = 2.849$, $p = .02$). Specifically, there were no significant differences in the four items of emotional intelligence, satisfaction with employment outcome, person-organization fit, and career adaptability among samples with different levels of average monthly household income ($p > .05$).

The results of between-group comparisons of employability by average monthly household income using LSD method are reported in Table 4.10. A comparison of the mean scores of the groups with significant differences regarding employability were: 1) the employability of respondents of the 6,000-8,000 yuan group (mean = 4.93) was significantly higher than the

respondents of less than 2,000 yuan group (mean = 4.55); 2) the employability of respondents of the 6,000-8,000 yuan group (mean = 4.93) was significantly higher than that of the 2,000-4,000 yuan group (mean = 4.41); 3) and the employability of respondents of the 6,000-8,000 yuan group (mean = 4.93) was significantly than that of the 4,000-6,000 yuan group (mean = 4.39)". In other words, the group with average monthly household income of 6,000-8,000 yuan reported a significantly higher level of employability than the groups with average monthly household income of less than 6,000-8,000 yuan (i.e., 4,000-6,000 yuan and less).

Table 4.10 Results of between-groups comparisons of employability by average monthly household income using LSD method

Variable	(I) Group name	(J) Group name	(I) Mean	(J) Mean	Difference (I-J)	<i>p</i>
Employability	Less than 2,000 yuan	6,000-8,000 yuan	4.55	4.93	-0.37	.04
	2,000-4,000 yuan	6,000-8,000 yuan	4.41	4.93	-0.53	.000
	4,000-6,000 yuan	6,000-8,000 yuan	4.39	4.93	-0.55	.000
	6,000-8,000 yuan	8,000-10,000 yuan	4.93	4.56	0.37	.06
	6,000-8,000 yuan	More than 10,000 yuan	4.93	4.36	0.58	.07

Note: * < .05; *** < .001

In summary: there were no significant differences in the four variables, namely emotional intelligence, satisfaction with employment outcome, person-organization fit, and career adaptability, among groups with different average monthly household income. However, there were significant differences in employability among groups with different average monthly household income.

4.4.3 ANOVA results of key variables by number of scholarships received during undergraduate years

Table 4.11 below shows the results of one-way ANOVA of the differences in employability, emotional intelligence, family socioeconomic status, satisfaction with employment outcome, person-organization fit, and career adaptability, among groups with different number of scholarships received during undergraduate years. It can be seen from the table that there were significant differences ($p < .05$) in only one variable (satisfaction with employment outcome) among groups with different number of scholarships received during undergraduate years, implying that groups with different number of scholarships received during undergraduate years showed differences in satisfaction with employment outcome ($F = 3.00, p = .01$). A comparison of the means among groups with significant differences showed that the group that received 4-6 scholarships during undergraduate years had greater satisfaction with employment outcome than the group that received no scholarship during undergraduate years; and the group that

received 4-6 scholarships during undergraduate years had greater satisfaction with employment outcome than the group that received 1-2 scholarship(s) during undergraduate years.

Table 4.11 ANOVA results of key variables by number of scholarships received during undergraduate years

Item	Source of variation	Sum of squares	DF	Mean square	F value	P value
Employability	Between-groups	1.20	4	0.30	0.69	.60
	Within-group	90.30	207	0.44		
	Total	91.49	211			
Emotional intelligence	Between-groups	3.23	5	0.65	1.39	.23
	Within-group	98.26	211	0.47		
	Total	101.49	216			
Family socioeconomic status	Between-groups	11.95	5	2.39	1.95	.09
	Within-group	265.56	217	1.22		
	Total	277.51	222			
Satisfaction with employment outcome	Between-groups	6.40	5	1.28	3.00	.01
	Within-group	92.41	217	0.43		
	Total	98.81	222			
Person-organization fit	Between-groups	2.79	5	0.56	0.64	.67
	Within-group	188.	217	0.87		
	Total	191.68	222			
Career adaptability	Between-groups	2.35	5	0.47	0.63	.68
	Within-group	161.92	217	0.75		
	Total	164.27	222			

Note: ** < .01

Results of between-groups comparisons using LSD method were reported in Table 4.12. The group with 4-6 times reported significantly a higher level of satisfaction with employment outcome (mean = 4.548) than the groups with none (mean = 4.142) and 1-3 times (mean = 4.041).

In summary, there were no significant differences in the five variables, namely, employability, emotional intelligence, family socioeconomic status, person-organization fit, and career adaptability, among groups with different number of scholarships received during undergraduate years. However, there were significant differences in (satisfaction with employment outcome among groups with different number of scholarships received during undergraduate years.

Table 4.12 Results of between-group comparisons of satisfaction with employment outcome by number of scholarships received during undergraduate years using LSD method

	(I) Group name	(J) Group name	(I) Mean	(J) Mean	Difference (I-J)	p
Satisfaction with employment outcome	None	1-3 times	4.14	4.04	0.10	.30
	None	4-6 times	4.14	4.55	-0.41	.01
	None	7-9 times	4.14	4.04	0.11	.70
	1-3 times	4-6 times	4.04	4.55	-0.51	.004
	1-3 times	7-9 times	4.04	4.04	0.00	.99

(I) Group name	(J) Group name	(I) Mean	(J) Mean	Difference (I-J)	<i>p</i>
4-6 times	7-9 times	4.55	4.04	0.51	.10

Note: ** < .01

4.4.4 ANOVA results of key variables by average ranking of academic performance in the class during the four undergraduate years

Table 4.13 below shows the results of one-way ANOVA of the five key variables, namely employability, family socioeconomic status, satisfaction with employment outcome, person-organization fit, and career adaptability, among groups with different average rankings of academic performance in the class during the four undergraduate years. It can be seen from the table there were no significant differences ($p > .05$) in all these six variables among groups with different average rankings of academic performance in the class during the four undergraduate years, implying that groups with different average rankings of academic performance in the class during the four undergraduate years showed equal variances and no statistically significant differences in the six variables (employability, emotional intelligence, family socioeconomic status, satisfaction with employment outcome, person-organization fit and career adaptability). Table 4.13 ANOVA results by average ranking of academic performance in the class during the four undergraduate years on related variables

Item	Source of variation	Sum of squares	DF	Mean square	<i>F</i> value	<i>P</i> value
Employability	Between-groups	1.58	4	0.39	0.91	.46
	Within-group	89.92	207	0.43		
	Total	91.49	211			
Emotional intelligence	Between-groups	4.34	5	0.87	1.88	.10
	Within-group	97.15	211	0.46		
	Total	101.49	216			
Family socioeconomic status	Between-groups	8.98	5	1.80	1.45	.21
	Within-group	268.53	217	1.24		
	Total	277.51	222			
Satisfaction with employment outcome	Between-groups	3.98	5	0.80	1.82	.11
	Within-group	94.83	217	0.44		
	Total	98.81	222			
Person-organization fit	Between-groups	4.07	5	0.81	0.94	.46
	Within-group	187.61	217	0.87		
	Total	191.68	222			
Career adaptability	Between-groups	3.88	5	0.78	1.05	.39
	Within-group	160.39	217	0.74		
	Total	164.27	222			

But it is interesting to note that marginal differences were observed in emotional intelligence ($p < .1$). The LSD method was used for further analysis, and the results are reported in Table 4.14. Specifically, those ranked in the range of 10%-30% (mean = 4.70, SD = 0.56) demonstrated a significantly higher level of emotional intelligence ($p < .05$) than those in the range of 50%-70% (mean = 4.44, SD = 0.80).

Table 4.14 Results of between-group comparisons of emotional intelligence by ranking of academic performance in the class during the four undergraduate years using LSD method

	(I) Group name	(J) Group name	(I) Mean	(J) Mean	Mean difference (I- J) p	
Emotional intelligence	1.0	2.0	4.64	4.70	-0.06	0.66
	1.0	3.0	4.64	4.65	-0.01	0.93
	1.0	4.0	4.64	4.44	0.20	0.19
	1.0	5.0	4.64	4.50	0.14	0.49
	2.0	3.0	4.70	4.65	0.05	0.67
	2.0	4.0	4.70	4.44	0.26	0.04
	2.0	5.0	4.70	4.50	0.20	0.28
	3.0	4.0	4.65	4.44	0.21	0.10
	3.0	5.0	4.65	4.50	0.15	0.42
	4.0	5.0	4.44	4.50	-0.06	0.74

* $p < .05$

Item: 1) Top 10%; 2) 10%-30%; 3) 30%-50%; 4) 50%-70%; 5) After 70%

In summary, except marginal differences reported on emotional intelligence, there were no significant differences in all the five variables, namely employability, family socioeconomic status, satisfaction with employment outcome person-organization fit and career adaptability, among groups with different average rankings of academic performance in the class during the four undergraduate years.

4.5 Regression analysis

4.5.1 Antecedents of employability

To validate the predictive validity of family socioeconomic status, emotional intelligence on CGES measure (employability), hierarchical multiple regression was conducted on CGES measure by entering the control variables in the first step and emotional intelligence in the second step. The results were reported below. Model 1 consisted of control variables, including gender, average monthly household income, average ranking of academic performance in the class during the four undergraduate years, and number of scholarships received during undergraduate years. Model 2 further included two independent variables, namely family

socioeconomic status and emotional intelligence, on the basis of Model 1. The dependent variable of the two models was CGES measure.

Table 4.15 below shows the results of hierarchical multiple regression using gender, average monthly household income, average ranking of academic performance in the class during the four undergraduate years and number of scholarships received during undergraduate years as independent variables and CGES measure (employability) as the dependent variable. It can be seen from the table that R-squared (R^2) of the model was 0.045, suggesting that gender, average monthly household income, average ranking of academic performance in the class during the four undergraduate years and number of scholarships received during undergraduate years can explain 4.5% of variance in employability. The model passed the F-test ($F = 2.940$, $p < .05$), meaning that at least one of the four variables, namely gender, average monthly household income, average ranking of academic performance in the class during the four undergraduate years and number of scholarships received during undergraduate years, had an influence on employability.

Table 4.15 Results of hierarchical multiple regression of the antecedents of employability (n=268)

	Control variable					Independent variable				
	B	Standardt error	p	β		B	Standardt error	p	β	
Constant	4.40***	0.2	20.01	.00	-	1.48***	0.28	5.35	.00	-
Gender	-0.02	0.10	-0.17	.86	-0.01	-0.10	0.08	-1.354	.18	-0.07
Household income	0.05⁺	0.03	1.65	.10	0.10	-0.00	0.03	-0.015	.99	-0.001
Ranking of academic performance in the class	-0.07⁺	0.04	-1.71	.09	-0.12	-0.03	0.03	-0.96	.34	-0.051
Number of scholarships received	0.10⁺	0.06	1.771	.08	0.12	0.11**	0.04	2.60	.01	0.133
Family socioeconomic status						0.03	0.04	0.822	.41	0.05
Emotional intelligence						0.64***	0.05	13.48	.00	0.65
R^2	0.05					0.45				
Adjusted R^2	0.03					0.44				
F	$F(4,247) = 2.94$, $p = .02$					$F(6,245) = 33.81$, $p = .00$				
ΔR^2	0.05					0.41				
ΔF value	$F(4,247) = 2.94$, $p = .02$					$F(2,245) = 91.24$, $p = .00$				

Dependent variable: CGES measure

Note: ⁺ $p < .1$; ** $p < .01$; *** $p < .001$

The regression coefficient of academic performance in the class during the four undergraduate years was -0.072, which was mildly significant ($t = -1.708$, $p = .09 < .1$), implying that academic performance in the class during the four undergraduate years could negatively influence employability. The regression coefficient of number of scholarships received during undergraduate years was 0.102, which was also mildly significant ($t = 1.771$, p

$= .078 < .1$), implying that number of scholarships received during undergraduate years could positively influence employability.

Model 2: After family socioeconomic status and emotional intelligence were added on the basis of Model 1, there was a significant variance in F value ($p < .05$), implying that the addition of family socioeconomic status and emotional intelligence had explanatory power for the model. In addition, the R-squared value (R^2) increased from 0.045 to 0.453, implying that family socioeconomic status and emotional intelligence had a 40.7% explanatory power on employability. Specifically, the regression coefficient of family socioeconomic status was 0.032, which was not statistically significant, meaning that family socioeconomic status did not have a predictive effect on employability.

Emotional intelligence had a beta coefficient of 0.64, which was significant ($t = 13.48$, $p < .001$), implying that emotional intelligence provided significant contributions in predicting employability.

Again, the regression coefficient of number of scholarships received during undergraduate years was 0.11, which was significant ($t = 2.604$, $p = .01$), implying that number of scholarships received during undergraduate years could positively influence employability. Besides, after emotional intelligence was included in the model, the significance level increased.

4.5.2 Outcome variables of employability

4.5.2.1 CGES measure and satisfaction with employment outcome

To validate the predictive validity of the CGES measure on employment outcome as a criterion variable, hierarchical multiple regression was conducted on the satisfaction with employment outcome. The control variables were entered in the first step, the CGES measure was entered in the second step. It can be seen from Table 4.16 that Model 1 consisted of control variables, including gender, average monthly household income, average ranking of academic performance in the class during the four undergraduate years, and number of scholarships received during undergraduate years. The dependent variable was satisfaction with employment outcome.

The control variables of Model 1 were gender, average monthly household income, average ranking of academic performance in the class during the four undergraduate years and number of scholarships received during undergraduate years, while Model 2 was added with employability on the basis of Model 1. The dependent variable of the two models was satisfaction with employment outcome. Table 4.16 below shows the results of hierarchical

multiple regression using gender, average monthly household income, average ranking of academic performance in the class during the four undergraduate years, and number of scholarships received during undergraduate years as independent variables and satisfaction with employment outcome as the dependent variable. It can be seen from Table 4.16 below that R-squared (R^2) of the model was 0.009, suggesting that gender, average monthly household income, average ranking of academic performance in the class during the four undergraduate years and number of scholarships received during undergraduate years could explain 0.9% of variance in satisfaction with employment outcome. The model failed F-test ($F = 0.54, p > .05$), meaning that gender, average monthly household income, average ranking of academic performance in the class during the four undergraduate years, and number of scholarships received during undergraduate years did not have a predictive effect on satisfaction with employment outcome.

Table 4.16 Results of hierarchical multiple regression of satisfaction with employment outcome (n=268)

	Model 1 (control variables)					Model 2 (independent variables)				
	<i>B</i>	Standard <i>t</i> error	<i>p</i>	β		<i>B</i>	Standard <i>t</i> error	<i>p</i>	β	
Constant	4.17***	0.23	18.43	.00	-	2.69***	0.34	7.84	.00	-
Gender	-0.11	0.10	-1.11	.27	-0.07	-0.12	0.10	-1.23	.22	-0.08
Household income	0.00	0.03	0.00	.10	0.00	-0.02	0.03	-0.60	.55	-0.04
Ranking of academic performance	-0.01	0.04	-0.29	.77	-0.02	0.01	0.04	0.31	.76	0.02
Number of scholarships received	0.05	0.06	0.86	.39	0.06	0.02	0.06	0.42	.68	0.03
Employability						0.34***	0.06	5.48	.00	0.33
R^2	0.01					0.12				
Adjusted R^2	-0.01					0.10				
<i>F</i> value	$F(4,250) = 0.54, p = .70$					$F(5,249) = 6.50, p = .00$				
ΔR^2	0.01					0.107				
ΔF value	$F(4,250) = 0.54, p = .70$					$F(1,249) = 30.07, p = .00$				

Note: Dependent variable: satisfaction with employment outcome; *** < .001

Regarding Model 2: after the CGES measure (employability) was added on the basis of Model 1, there was a significant variance in *F* value ($p < .001$), implying that the addition of employability had explanatory power for the model. In addition, the R-squared value (R^2) increased from 0.009 to 0.115, implying that CGES measure had a 10.7% explanatory power on satisfaction with employment outcome. Specifically, the regression coefficient of employability was 0.335, which was statistically significant ($t = 5.483, p < .001$), meaning that the CGES measure had a significantly predictive effect on satisfaction with employment outcome.

4.5.2.2 CGES measure and person-organization fit

To validate the predictive validity of the CGES measure on person-organization fit as a criterion variable, a hierarchical multiple regression was conducted on the person-organization fit. It can be seen from Table 4.17 below that the hierarchical multiple regression involves two models. In the first step (Model 1), the control variables were entered, including gender, average monthly household income, average ranking of academic performance in the class during the four undergraduate years and number of scholarships received during undergraduate years. CGES measure was entered in the second step (Model 2). The dependent variable of the two models was person-organization fit. Table 4.18 below shows the results of hierarchical multiple regression using gender, average monthly household income, average ranking of academic performance in the class during the four undergraduate years, and number of scholarships received during undergraduate years as independent variables and person-organization fit as the dependent variable.

Table 4.17 Results of hierarchical multiple regression of person-organization fit (n=268)

	Model 1 (control variables)					Model 2 (independent variables)				
	<i>B</i>	Standard error	<i>t</i>	<i>p</i>	β	<i>B</i>	Standard error	<i>t</i>	<i>p</i>	β
Constant	3.80***	0.306	2.42	.00	-	3.12***	0.49	6.38	.00	-
Gender	-0.04	0.14	-0.28	.78	-0.02	-0.04	0.14	-0.30	.76	-0.02
Household income	0.05	0.04	1.11	.27	0.07	0.040	0.04	0.91	.36	0.06
Ranking of academic performance	0.01	0.06	0.20	.84	0.01	0.02	0.06	0.40	.69	0.03
Number of scholarships received	0.06	0.08	0.69	.49	0.05	0.04	0.08	0.53	.60	0.04
Employability						0.15⁺	0.09	1.78	.08	0.11
<i>R</i> ²	0.01					0.02				
Adjusted <i>R</i> ²	-0.01					-0.00				
<i>F</i> value	<i>F</i> (4,250) = 0.45, <i>p</i> =.78					<i>F</i> (5,249) = 0.99, <i>p</i> =.43				
ΔR^2	0.01					0.01				
ΔF value	<i>F</i> (4,250) = 0.45, <i>p</i> =.78					<i>F</i> (1,249) = 3.15, <i>p</i> =.08				

Note: Dependent variable: person-organization fit; ⁺ *p* < .1; *** *p* < .001

It can be seen from Table 4.17 above that R-squared (*R*²) of the model was 0.007, suggesting that gender, average monthly household income, average ranking of academic performance in the class during the four undergraduate years, and number of scholarships received during undergraduate years could explain 0.7% of variance in person-organization fit. The model failed the *F*-test (*F* = 0.445, *p* > .05), meaning that gender, average monthly household income, average ranking of academic performance in the class during the four

undergraduate years, and number of scholarships received during undergraduate years did not have a predictive effect on person-organization fit.

Regarding Model 2: after CGES measure (employability) was added on the basis of Model 1, there was mild significant variance in F value ($F = 3.15, p < .1$), implying that the addition of CGES measure had marginal explanatory power for the model. In addition, the variance of the R-squared value (R^2) was only 0.012, implying that CGES measure had a 1.2% explanatory power on person-organization fit. Specifically, the regression coefficient of employability was 0.154, which was statistically significant ($t = 1.78, p = .08 < .1$), meaning that CGES measure had a significant but weak predictive effect on person-organization fit.

4.5.2.3 CGES measure and career adaptability

To validate the predictive validity of the CGES measure on career adaptability fit as a criterion variable, a hierarchical multiple regression was conducted on career adaptability. The control variables were entered in the first step, and the CGES measure was entered in the second step. The control variables in Model 1 included gender, average monthly household income, average ranking of academic performance in the class during the four undergraduate years, and number of scholarships received during undergraduate years. CGES measure was added to Model 2 on the basis of Model 1. And the dependent variable of the models was career adaptability.

Table 4.18 below shows the results of hierarchical multiple regression using gender, average monthly household income, average ranking of academic performance in the class during the four undergraduate years and number of scholarships received during undergraduate years as independent variables and career adaptability as the dependent variable. It can be seen that R-squared (R^2) of the model was 0.017, suggesting that gender, average monthly household income, average ranking of academic performance in the class during the four undergraduate years and number of scholarships received during undergraduate years can explain 1.7% of variance in career adaptability. The regression coefficient of number of scholarships received during undergraduate years was 0.14, which was statistically significant ($p < .1$), meaning that number of scholarships received during undergraduate years had a mild predictive effect on career adaptability. However, gender, average monthly household income, and average ranking of academic performance in the class during the four undergraduate years did not have a predictive effect on career adaptability.

Table 4.18 Results of hierarchical multiple regression of career adaptability ($n=268$)

	Model 1 (control variables)					Model 2 (independent variables)				
	<i>B</i>	Standard error	<i>t</i>	<i>p</i>	β	<i>B</i>	Standard error	<i>t</i>	<i>p</i>	β
Constant	4.16***	0.29	14.56	.00	-	3.45***	0.46	7.57	.00	-
Gender	-0.07	0.13	-0.54	.59	-0.04	-0.07	0.13	-0.56	.57	-0.04
Household income	0.03	0.04	0.74	.46	0.05	0.02	0.04	0.52	.61	0.03
Ranking of academic performance	0.04	0.05	0.66	.51	0.05	0.05	0.05	0.88	.38	0.06
Number of scholarships received	0.14⁺	0.07	1.85	.07	0.13	0.12⁺	0.07	1.68	.10	0.11
Employability						0.16*	0.08	1.98	.05	0.13
R^2	0.02					0.03				
Adjusted R^2	0.00					0.01				
<i>F</i> value	$F(4,250) = 1.077, p = .37$					$F(5,249) = 1.656, p = .15$				
ΔR^2	0.02					0.02				
ΔF value	$F(4,250) = 1.08, p = .37$					$F(1,249) = 3.92, p = .05$				

Note: Dependent variable: career adaptability; ⁺ < .1, * < .05, *** < .001

Regarding Model 2: after CGES measure (employability) was added on the basis of Model 1, there was a significant variance in *F* value ($p < .05$), implying that the addition of CGES measure had explanatory power for the model. In addition, the variance of the *R*-squared value (R^2) increased from 0.017 to 0.032, implying that CGES measure had a 1.5% explanatory power on career adaptability. Specifically, the regression coefficient of employability was 0.160, which was statistically significant ($t = 1.980, p < .05$), meaning that CGES measure had a significant predictive effect on career adaptability. The regression coefficient of number of scholarships received during undergraduate years was 0.124, which was statistically significant ($t = 1.677, p = .09 < .1$), meaning that number of scholarships received during undergraduate years had a significant predictive effect on career adaptability.

Chapter 5: Discussion and Conclusions

Based on the analysis and results in the previous chapter, this chapter will discuss the research findings, implications and limitations.

5.1 Overview of the study

This study first used a sample of 2,724 from 17 universities across China to validate the Chinese Graduate Employability Scale (CGES) developed by S. Z. Ma et al. (2012), and also employed a longitudinal study design with a sample of 268 collected at two points in time, respectively T1 in 2019 and T2 in 2021 to test CGES measure's predictivity on their career development outcomes.

The EFA (even part, $n=1,362$) and CFA (odd part, $n=1,362$) of the 2,724 valid web-based questionnaires revealed that CGES consisted of three dimensions: social skills, self-marketing skills and job-hunting skills. The three dimensions of employability had good reliability: Regression analyses revealed that the graduates' emotional intelligence was strongly related to their employability, and the employability measured by CGES was associated with their satisfaction with employment outcomes. T2 followed up on the career development of the T1 respondents two years after graduation and explored the relationship between graduates' employability and career development variables.

5.2 Demographic information of the sample

This section summarises the demographic information of the sample of this study and the employment information of the sample, including respondents' personal information, their family situation, school and academic life, and employment outcomes.

The 2,256 paper-pencil questionnaires were collected from the 2019 graduates of a normal university in southwest China. It is a provincial key normal university with the collaborative support of China's Ministry of Education and Yunnan Provincial People's Government. The university has been awarded the title of "University with Typical Experience of Graduates' Employment", and its graduate employment work has been ranked among the top 50 universities in China and the top ten local undergraduate universities. The normal university in southwest China is focused on teacher training in its type and positioning. There were 6,453

fresh graduates from the normal university in 2019, with 71% (4,582) female students and 29% (1,871) male students. The sample of this study represented 35% of the university's fresh graduates in that year, and the gender ratio of the sample was similar to the ratio of male to female students in the university, with the female sample also being the majority taking up 72.55% (1,575) and the male sample only accounting for 27.45% (596). Eighty-five respondents did not fill in the gender option. Southwest China and is economically backward. The source of students enrolled in the university each year is mainly from the province, and the majority of the students come from rural areas. Out of a total of 6,453 fresh graduates in 2019, the largest percentage of 66.20% (4,272) were living in rural areas, and 33.44% (2,024) in towns. The sample of this study also reflected these characteristics, with the largest proportion of the sample living in rural areas, accounting for 47.35% (1038) of the total sample. Overall, the sample of this study is highly representative of the graduates of this university.

Among the 2,724 respondents of T1 web-based questionnaire survey, most of the universities are from the southwest region of China, and most of them are liberal arts and normal universities. The respondents were from the state top universities (e.g., Project 211, Project 985), provincial universities as well as private universities. Overall, similar to the proportion of paper-pencil questionnaires, the majority of the sample were female respondents, accounting for 73.53% (2,003), while male respondents took up only 26.47% (721); respondents from rural areas took up 50.99% (1,389), and only 23.68% (645) were from provincial capitals and municipal cities; most of the respondents' parents were not well-educated. Those who had received junior high school education or below took up 65.05% (1,772), and only 6.35% (173) of the respondents' parents had received college education or above; the average monthly household income was relatively high, with 35.68% (972) of the sample earning 2,000-4,000 yuan per month and only 5.98% (163) of them earning 8,000-10,000 yuan per month.

Seen from the employment results, in T1 paper-pencil questionnaire survey and web-based questionnaire survey, 46.35% (2,270) of the sample had already found a job when the data were collected in graduation season in 2019; 30.14% (1,476) were still looking for a job; 5.72% (280) were studying for a master's degree; and 15.38% (753) were starting their own business. The results objectively reflected the challenge of difficult employment confronted by college students in recent years. According to the employment outcomes of T2 survey, only 48.88% (131) of the samples were still working in the units they signed a contract with upon graduation; 34.33% (92) of the sample had already changed their work units; 8.58% (23) of the sample were in other employment status (such as unemployed or studying for postgraduate entrance exams); 4.88% (12) of the sample were self-employed; and 3.77% (10) of the sample were studying for

a master's degree after graduating from university. These results reflected job instability after graduation.

Correlation analysis revealed that the CGES was significantly and positively correlated with its three dimensions: job-hunting skills ($r = .90, p < .001$), self-marketing skills ($r = .74, p < .001$), and social skills ($r = .71, p < .001$). In addition, the employability (measured by CGES) was significantly and positively related to emotional intelligence. The employability factor was significantly and positively related to satisfaction with employment outcomes and career adaptability. Finally, employability was significantly and positively related to number of scholarships received during undergraduate years ($r = .13, p < .05$), but negatively related to average ranking of academic performance in the class during the four undergraduate years ($r = .15, p < .05$).

5.3 Variance analysis results among groups

5.3.1 Female graduates reported higher emotional intelligence than male graduates

In this study, the emotional intelligence of female graduates (mean = 4.67, SD = 0.65) was mildly higher than that of (mean = 4.48, SD = 0.77) male graduates. This finding is consistent with the studies conducted by Salovey and Mayer (1990), McIntyre (2010) and Extremera et al. (2011), which suggested structural differences in the emotional intelligence evaluated by college students of different genders themselves. A meta-analysis of the emotional intelligence scores evaluated by male and female college students themselves revealed that female college students had significantly higher levels of emotional intelligence than male college students (D. Liu & Jiao, 2017). The higher levels of emotional intelligence evaluated by female college students themselves than male college students might be a result of influences from gender stereotypes. Grossman and Wood (1993) argue that gender differences in the intensity of emotional experiences stem from men's and women's different social roles (Eagly & Wood, 1991). The typical gender stereotype holds that females are more sensible while males are more rational. Nolen-Hoeksema and Aldao (2011) argue that women are stronger in emotional expressiveness. For example, descriptions such as caring for others and paying attention to emotions are generally believed to be typical descriptions of females, whereas such adjectives as independent, enterprising and brave are considered typical descriptions of males (Rubin, 1983). Besides, results of the survey done by Z. S. Zhang and Li (2011) indicate the existence of 14.08% Internet addicts among college students in China with significant gender differences

showing that male college students were more likely to be addicted to the Internet than female college students. Therefore, the author holds that the continuous decrease in emotional intelligence of Chinese college students over the years might be caused by the fact that male college students have become more and more immersed in the online world as they grow up, which has led to reduced experience of emotion regulation in real-life situations. As a result, the overall emotional intelligence of Chinese college students has decreased, reflected in the emotional intelligence evaluations by male college students themselves.

5.3.2 Differences in employability by household income

The ANOVA results showed that there were differences ($F = 2.85, p = .02$) in employability among samples with different average monthly household income. Results of between-groups comparisons of employability by average monthly household income using LSD method showed that the employability of the group earning 6,000-8,000 yuan (mean = 4.93) was significantly higher than that of the groups earning below this level (such as 4,000-6,000 yuan (mean = 4.39) or lower). This is consistent with the study conducted by J. Zheng (2004), who concluded based on an empirical analysis that social capital measured by family socioeconomic status had different degrees of influence on college graduates' employment intention, job hunting behaviour and actual employment situation. W. Li and Yue (2009) found in their study on college students' employment situation that family socioeconomic status has significantly positive influences on graduates' employment outcomes.

5.3.3 Differences in employability by university type and major

The ANOVA results showed that: 1) the employability of respondents who graduated from "Project 985", "Project 211" or "Double First-Class" universities was significantly higher than that of respondents who graduated from general provincial universities; 2) the employability of respondents who graduated from normal universities was significantly higher than that of respondents who graduated from general provincial universities; 3) the employability of respondents who graduated from universities jointly built by provincial governments and ministries was significantly higher than that of respondents who graduated from general provincial universities; and 4) the employability of respondents who graduated from private undergraduate universities was significantly higher than that of respondents who graduated from general provincial universities. The results are consistent with those of the study by F. Li et al. (2012) on the differences among college students. According to the explanations by trait-

factor theory and career self-efficacy theory, college students admitted by “Project 985”, “Project 211” or “Double First-Class” universities have stronger comprehensive abilities and a stronger sense of competition, leading to their greater efforts. In addition, these universities also provide them with greater support in education, teaching and ability cultivation. Min et al. (2006) concluded that students from “Project 985”, “Project 211” or “Double First-Class” universities obviously stand a much better chance of finding a job compared to those from general colleges and universities. Similarly, students from technical colleges and higher vocational schools have a lower probability of finding a job compared to those from general colleges and universities.

In this study, there were significant differences ($p < .05$) in career adaptability between groups with different majors. Specifically, the group of respondents majoring in science, engineering, agriculture and medicine (mean = 4.27, SD = 1.03) had a significantly lower level of career adaptability than the group of respondents majoring in humanities and social sciences (mean = 4.59, SD = 0.76). This result can be interpreted by the fact that the subject education of humanities and social sciences majors emphasizes more on students' social skills than that of science, engineering, agriculture and medicine majors, hence their stronger employability. X. Jin (2012) reached the same conclusion based on an analysis of the data collected from over 2,000 undergraduates in 19 universities across 11 provinces (cities). She concluded on the basis of empirical research that the employability of science and engineering majors was significantly lower than that of liberal arts majors. F. Li et al. (2012) concluded from an analysis of the differences among college students of different majors that humanities and social sciences mostly deal with relations of production, and exposure to more relations means that more interpersonal skills are needed. In comparison, natural science deals more with productivity, less with interpersonal and social skills, and thus does not require more self-presenting skills or self-marketing skills. On the contrary, humanities and social sciences majors prefer a large crowd environment which requires them to have strong self-marketing and self-presenting skills.

5.3.4 Differences in employability by number of scholarships received during undergraduate years

The group of respondents who received 4-6 times of scholarships during undergraduate years had a significantly higher level of employability than the groups who received 1-3 times of scholarships or no scholarship. H. Zhou and Wang (2020) argue that whether college students received scholarships is associated with their employability. This is because students who actively participated in and received awards from competitions have certain specialties in their

majors or in other fields such as culture, sports or literature and art. These students can well adapt to job-seeking situation and present themselves properly. Besides, students who were rated as advanced individuals also scored significantly higher on work ethics. An analysis of the differences in employability between graduates who received scholarships and those who did not receive scholarships suggested that there were significant differences in personality adaptation characteristics and overall employability scores between these two groups, with students who received scholarships scoring significantly higher in these two dimensions than those who did not receive scholarships (Y. X. Hou, 2013). This suggests that students who received scholarships during undergraduate years have more adaptive personality traits and higher overall employability as they are generally more diligent and have stronger comprehensive abilities than other students.

5.3.5 Differences in employability by average ranking of academic performance in the class during the four undergraduate years

There were marginal differences ($p < .1$) in emotional intelligence by average ranking of academic performance in the class during the four undergraduate years. Specifically, those ranked in the range of 10%-30% (mean = 4.70, SD = 0.56) demonstrated a significantly higher level of emotional intelligence ($p < .05$) than those in the range of 50%-70% (mean = 4.44, SD = 0.80). This result is consistent with the results of studies conducted by Y. M. Li et al. (2016) and Parker et al. (2004). Specifically, Y. M. Li et al. (2016) held from the perspective of ability emotional intelligence that academic performance is a task that individuals perform on their own through individual effort. These specific learning tasks rarely involve the processing of emotional information, and individuals with higher levels of emotional intelligence may be able to perceive, understand, use and regulate emotions in a way that allows them to better adapt to emotional situations that may hinder learning performance and create more appropriate emotions to facilitate learning task completion and performance improvement. Parker et al. (2004) argued from the perspective of mixed emotional intelligence that factors such as adaptability and self-stress management are strongly associated with academic performance.

5.4 Discussion of the main findings of the study

The validation and longitudinal empirical study of the CGES in this study can lead to the following conclusions.

(1) The study verified the reliability and validity of the CGES and confirmed that the Chinese graduates' employability consists of three dimensions, namely social skills, self-marketing skills and job-hunting skills. The scale is suitable for measurement of graduates' employability, scientific research, and employment guidance.

(2) Correlation and regression analyses show that emotional intelligence has a significantly positive association with graduates' employability; in addition, correlation analysis shows that graduates' employability is positively related to the number of scholarships received during undergraduate years, but negatively to the average ranking of academic performance in the class during the four undergraduate years.

(3) Graduates' employability has a positive impact on their satisfaction with employment outcomes, person-organization fit and career adaptability. This result indicates that graduates' employability can effectively predict their satisfaction with employment outcomes, person-organization fit and career adaptability.

The results of each of these findings are discussed below.

5.4.1 Reliability, validity and dimensions of the CGES

EFA was conducted on a valid sample of 1,362 respondents. A total of three factors with eigen values greater than 1 were extracted, and CFA was conducted on the 14 items of the three factors to confirm that the factor structure of Chinese graduates' employability was consistent with the original scale constructed by S. Z. Ma et al. (2012). This indicates that the CGES can be used for measurement of graduates' employability, scientific research, talent training, and employment guidance. Using the employability scale developed by S. Z. Ma et al. (2012), Wei et al. (2020) also empirically concluded that the scale contains three dimensions, namely "job-hunting skills", "self-presenting skills" and "social skills". Zong and Zhou (2012) divided human capital into intellectual capital and competency capital and proved that investment in intellectual capital did not effectively improve the employability of college students, while the accumulation of competency capital helped improve the employability of college students. The above research findings have strong theoretical and practical guidance implications.

This study proves that the employability of Chinese graduates is composed of three dimensions: "job-hunting skills", "self-marketing skills" and "social skills". Specifically, graduates' job-hunting skills dimension is measured by the following six items:

1. I prepare my CV based on job requirements to highlight my suitability for the job.
2. I have a clear career plan.

3. I know what kind of job I am suitable for.
4. I have a good understanding of the position I will be interviewed for before the interview.
5. I collect job information through multiple channels.
6. I have a clear job objective.

Graduates' self-marketing skills dimension is measured by the following four items:

7. I have strong oral communication skills.
8. I am able to persuade others.
9. My outgoing personality helps me in job hunting.
10. I am good at presenting myself.

Graduates' social skills dimension is measured by the following four items:

11. I know what kind of job I am suitable for.
12. I have a good understanding of the position I will be interviewed for before the interview.
13. I collect job information through multiple channels.
14. I have a clear job objective

Built on the findings of S. Z. Ma et al. (2012), the author defines the three constructs of employability to be job-hunting skills, social skills and self-marketing skills. The main consideration is that each of the three dimensions consists of multiple skills. In other words, each dimension refers to a skillset rather than a single skill. So, "skills" is used instead of "skill". In addition, "self-presenting skill" is replaced by "self-marketing" skills for two considerations. First, it is generally believed in the business community that each person in the workforce has a personal brand, and that the realisation of human capital relies on self-marketing (Lair et al., 2005; Shepherd, 2005). Second, the term "self-marketing" has been widely used in self-help books (Beals, 2011; Covey, 1989), consultancy services, and various websites that discuss job seeking and career development (Manai & Holmlund, 2015). Thus, it is a concept easily captured by jobseekers, employers and career service agencies. In fact, self-marketing is a mature concept that has been adopted by many scholars. For example, McCorkle et al. (2003) reiterated the importance of self-marketing as a support skill for developing job search skills in the U.S. and global economies at large. Shepherd (2005) pointed out that self-marketing and personal branding had been gaining popularity in self-improvement books. He defined self-marketing to be consisting of "varied activities undertaken by individuals to make themselves known in the marketplace, usually, (though not exclusively) for the purpose of obtaining gainful employment". Lair et al. (2005) used the term "self-packaging" to refer to "self-marketing" and regarded self-packaging the road to success. They even went further to state that success is

determined by how effectively individuals' internal sets of skills, motivations and interests are branded rather than by the skills, motivations and interests alone.

Shuker (2014) held that the definitions of self-marketing given by Shepherd (2005) and Lair et al. (2005) are limited to the field of employment and lack clarity in practice. So, Shuker (2014) defined self-marketing as “the process of creating professional projections of an ideal self, which constitute a technology of career progression for the individual and are associated with some form of exchange”. As this definition by Shuker (2014) emphasizes self-marketing as a process, the professional image over self-image, and its association with career progression, the present thesis adopts this definition for subsequent research. In summary, the present thesis identifies job-hunting skills, social skills and self-marketing skills to be the three dimensions/constructs of employability.

The author holds that these three dimensions represent the employability of college graduates to realise the value of human capital in the current Chinese social context. One of the dimensions, “job-hunting skills”, reflects the job search skill of jobseekers who, according to job search theory, have to put out a CV, create and publish information, continuously search for information about target companies, and participate in interviews based on their understanding of the companies. Career planning, CV creation and interview skills based on their own situation are basic components of graduates' employability. This competency is easier to develop than the other two, but schools must provide the relevant education and training.

“Self-marketing skills” dimension reflects the marketing skills of jobseekers in a competitive labour market. Whether or not college students can realise the value of their human capital upon graduation relies on whether they can present their abilities and market themselves in the context of labour supply and demand to win competition and job opportunities. In graduates' job-hunting process, their majors can function as a “stepping stone” in their first employment. However, in the face of a large number of competitors with homogeneous majors, graduates can only stand out and gain opportunities from employers by having better “self-marketing skills” than others. The items of the Self-Marketing Skills Scale contain the willingness to present and market oneself, one's personality, as well as the ability to verbalise and persuade others. This reflects the importance of “self-marketing skills” in the interaction between individuals and other elements of the labour market in the third wave proposed by Gazier (2001). Self-marketing skills, which reflect the initiative of graduates and their interaction with the labour market, have become an important dimension of employability.

“Social skills” dimension reflects the importance of social capital in the employment process of college students in China, a society where relationships are important. The present

study finds that much of the effective information in graduates' employment process comes from their social acquaintances. This reflects the influence of social capital on graduates' employment. In addition, for employers, social skills are important skills in the workplace and are often more difficult to improve through training than hard skills such as professional knowledge and skills. X. J. Xu (2002) argues that both human capital and social capital are important for graduates' to realise employment. T. Wang et al. (2011) found that "comprehension and communication skills" are soft skills that need to be strengthened in the development of graduates' employability. This study further suggests that social capital is crucial to the realisation of human capital. In other words, social skills are essential even when students graduate from universities and enter the workforce. Elements of social capital can also be found in the employability dimension abroad. For example, Fugate et al. (2004) included "social and human capital" as one of the three dimensions of employability.

The findings of this study not only extend and develop the human capital theory by theoretically proving that the three key competencies of employability, namely job-hunting skills, self-marketing skills and social skills, are the key factors for graduates to realise the value of human capital, but also have strong practical application value for solving the employment difficulty confronting college students. First, universities and parents should change the concept and way of cultivating employability and focus more on the cultivation of college students' general skills rather than only on the cultivation of professional skills. Song (2008) points out that overseas experience shows that graduates with only professional skills at the stage of mass education have difficulty in gaining a foothold in the labour market. Hong and Wu (2011) also emphasise that higher education should not focus on skill training as the main component of talent development. However, universities and parents in China tend to focus on the development of students' test-taking ability and professional competence training at the expense of general skills development. The findings of this study suggest that both universities and parents should make the development of general soft skills, such as self-marketing skills and social skills, an important part of college student development. And this is particularly important for only children.

Moreover, this study provides a clear definition of employability, which is conducive to the establishment of healthy employment values and employment orientation for college students, parents, universities and the society. The employability defined in this study emphasises the "personal satisfaction" of employment performance, the "individual relativity" of employability and the "personal efforts" of the employment process, which can, to a certain extent, correct the current situation of "being employed due to external pressure" or

“employment for employment’s sake”, the single value orientation of simply pursuing “high salary and high positions”, and graduates’ insufficient personal efforts and reliance on parents for employment. The concept of employability proposed in this study advocates employment based on merit, respects individuals’ employment satisfaction, and promotes graduates’ personal efforts, having a positive guidance for the establishment of healthy employment values and employment orientation.

Finally, this study has come up with an employability scale that is easier to use and has better reliability and validity, making the measurement of employability possible. The scale consists of 14 items under three dimensions. The item descriptions are very close to college students’ life and study. Therefore, they are easy to understand, easy to measure and assess, and can be widely used in employment guidance and ability assessment in universities. Universities can provide targeted training on college students’ employment guidance and employability assessment based on the measurement results of each dimension, thereby improving the effectiveness of employment work. This is also in line with the empirical study on college students’ employability based on three capital dimensions conducted by Y. Xiao and Xie (2017), who concluded that communication skills, career planning skills and the psychological capital factors of confidence and optimism are particularly important.

5.4.2 Results of empirical tests of employability and related variables

The results of the hierarchical multiple regression in this study showed that the regression coefficient value of emotional intelligence was 0.635 and significant ($t = 13.484, p < .001$), implying that emotional intelligence had a significantly positive effect on employability. In other words, graduates with higher emotional intelligence are more likely to get employed satisfactorily. Hogan et al. (2013) argued that emotional intelligence and social skills are crucial for one’s career success.

In addition to the correlation analysis results which showed a significantly positive relationship between employability and satisfaction with employment outcomes, the results of the hierarchical multiple regression also showed that employability had a significantly positive effect on satisfaction with employment outcomes. Qiao et al. (2011) validated the employability structure consisting of personal adaptability, career identity, human capital, and social capital proposed by Fugate et al. (2004) through a questionnaire survey of 1,017 graduates. There is a significant positive association between employability and the factors of employment outcomes; W. Y. Wang (2018) proved through an empirical study that employability and all its dimensions

(self-development ability, interpersonal communication skills, employment self-confidence, practical ability, and adaptability) are significantly and positively related to employment outcomes.

The regression analysis of this study reveals that employability has a significantly positive effect on person-organization fit. This is understandable because employability in this study stressed graduates' own efforts in the job-hunting process and CGES includes a dimension of job-hunting skills. In other words, because the graduate obtains a job by his or her own effort guided by his or her career objective and plan, such job-hunting increases the person-organization fit which is a beneficial outcome for the graduate and the employer.

As business environment becomes increasingly dynamic, organizational change and environmental uncertainty make employees' own adaptability an essential competence. In this study, the hierarchical multiple regression analysis showed that there was a significantly positive relationship between employability and career adaptability. The result was similar to the study by Ding (2015) that reported employability directly influenced the social adaptability and professional identification of college students in their career. Taken together, the results may suggest that employability is positively associated with career adaptability. It makes sense in this study given CGES consisting of self-marketing skills and social skills which may help the graduates to adapt in the career after graduation.

In summary, graduates' employability positively affects their satisfaction with employment outcomes, their person-organization fit and their career adaptability. In other words, the better graduates' employability, the stronger their satisfaction with employment outcomes, and at the same time the better their person-organization fit and the stronger their career adaptability.

This study not only validates the reliability of the CGES and clarifies the structural dimensions of Chinese graduates' employability, but also empirically examines the relationship between employability and the variables related to employability. Specifically: (1) college students' employability is positively related to their emotional intelligence; (2) college students' employability is positively related to their satisfaction with employment outcomes upon graduation; (3) college students' employability is significantly and positively associated with their career adaptability; and (4) college students' employability is significantly and positively associated with their person-organization fit.

5.5 Theoretical implications

The employment of college students has always been a priority for countries all over the world today. Governments, enterprises and the academia are all very concerned about this hotspot issue. Graduates' employability consists of various elements. Currently, there are relatively few studies on the dimensions of graduates' employability in China. Most such studies adopt the mature or self-developed scales abroad. Typical frameworks different from the structural models of employability abroad are absent in China; and an authoritative and representative model of employability is yet to be formed. In order to fill this research gap, this study verifies the reliability and validity of the CGES by applying the scale to the analysis and prediction of the employment outcomes of graduates from 18 universities in China. It also applies the scale to a large-scale and continuous study to validate its applicability, thus filling the gap of research on employability scales. In this way, this study not only provides more researchers with a valid research tool but also offers a new perspective for empirical research on graduate employment.

This study validates that the CGES can predict the employment outcomes and career development trends of college students through an empirical study of fresh graduates in two stages over two years. The validation of the CGES also better reveals the connotation and extension of employability. In this way, it provides not only a pioneering result for talent training and employment guidance research but also exploratory results for future in-depth research on employability.

This empirical study concludes that graduates' emotional intelligence is significantly correlated with their employability. Currently, there has been little theoretical research into the mechanisms underlying the role of emotional intelligence in graduates' employability. This study enriches the research on the theory of emotional intelligence.

Finally, this study concludes that graduates' emotional intelligence is associated with their employability and that graduates' employability is associated with their satisfaction with employment outcomes, person-organization fit and career adaptability. It expands the research on the outcomes of college students' employability and constructs a more complete model of employability.

5.6 Practical implications

For a long time, employment difficulty has been prominent among college graduates. In particular, the influence of complex social factors in today's society has exacerbated the

difficulty for graduates to realise employment. We researchers should pay full attention to this social situation and take active measures to help graduates alleviate their employment pressure and enhance their sense of self-efficacy. Meanwhile, we should consider in depth how to give full play to the role of universities, society and families to explore effective methods and approaches to address this problem. The findings of this thesis can lead to the following revelations:

1. College students should and can improve their own employability.

The employment outcomes of college graduates are directly related to whether and to what extent the investment in human capital of college students can yield returns, and the impact of unemployment is huge for college students who are already without income. As the most direct stakeholders selected by society, college graduates should not only study science and culture hard and improve their employability comprehensively, but also continuously engage in practical activities and internships to enhance their competitive edge in the labour market. College students and their parents should change the concept of study and employment to create conditions for seeking suitable jobs. College students should change the concept of learning, make full use of the exchange platform provided by the school, actively use internship opportunities to increase work experience and enhance social skills to improve their social skills, self-marketing skills and job-hunting skills rather than “study for study’s sake”. Parents and students should also change the concept of employment.

2. Universities should strengthen the relevance of employment services.

In a sense, college students can be regarded as the “products” of university education, and the “sales” of these “products” are directly related to the survival and development of universities. It is imperative to strengthen the sense of responsibility of higher education institutions and to further deepen the reform of higher education with employment and social needs as the guide. The fundamental task of higher education institutions is to cultivate talents needed for national economic and social development. The quality of employment and employment rate of graduates directly reflect the quality of teaching and learning of a university. Students’ employability is not only related to their own survival and development, but also to the survival and development of universities. Thus, it is necessary to permeate the improvement of employability into all aspects of teaching and incorporate college students’ social skills, self-marketing skills and job-hunting skills into the talent training plan to form a whole process training system so that college students will be more motivated to improve their employability. Besides, universities should strengthen the cultivation of college students’ employability, especially those in lower grades, provide college students with career orientation tests and skills

training, and actively organise highly targeted special job fairs to help college students improve their job-hunting skills. Universities should also organize cultural activities on campus to guide students to pay attention to employment and learn to address the difficulties they will face in the process of employment.

Higher education institutions should take concrete measures to improve students' employability. They should not only impart knowledge but also integrate it with students' employability development. Besides, there should be different initiatives to improve the employability of students with different hobbies and of different majors.

Higher education institutions should pay more attention to the cultivation of students' comprehensive employability. Due to the influence of tradition and policy inclinations, the focus of talent development in Chinese universities has been on the character and knowledge of students, especially the acquisition of professional knowledge. However, the labour market demand is increasingly focused on the overall competencies of graduates, in terms of not only professional skills but also general competencies and qualities (Lowden et al., 2011). In addition, cognitive development has always been regarded as an important function of education for the development of individuals, and cognitive skills are highly de-contextualised and therefore highly transferable (Bransford et al., 1999). These skills are inevitably important for the career development of graduates and should be given adequate attention by universities in their training. To fully meet the needs of society and improve the employment probability and job satisfaction of college students, higher education institutions should not only pay attention to the cultivation of students' professional knowledge and skills, but also attach great importance to the shaping of good personality traits.

3. Cultivation of college students' emotional intelligence should be enhanced.

Emotional intelligence can influence the employment of college students. Specifically, a higher level of emotional intelligence can help college students adapt to society and improve their career maturity, thus enhancing their competitiveness in employment and helping them win better employment opportunities. As college students are the future pillars of our country, the success or failure of their growth has a bearing on the future of our country, and the development of their emotional intelligence has a major impact on their growth. Therefore, research on college students' emotional intelligence is of significance to both individual and the country at large. College students themselves should focus more on cultivating their emotional intelligence and practice their communication skills with others and their self-marketing skills. Undergraduates should take the initiative to improve their job-hunting skills, be forward-looking, constantly improve their emotional intelligence, and enrich themselves through

practical activities in a variety of ways to improve and expand their abilities so that they can find jobs that are more satisfying and more compatible with their own statuses, and adapt to working life more quickly.

Most college students are immature in all aspects, young and impetuous, more prone to emotional fluctuations, and less able to control their emotions, leading to a lack of accurate judgements and decision-making ability when dealing with problems. According to N. Yang (2017), encouraging students to participate in emotional experience activities can greatly enhance their emotional intelligence. By encouraging students to actively participate in various collective and practical activities, colleges and universities can give students a platform to fully interact and communicate with others, enhance their interpersonal skills, and effectively help them engage in emotional experiences, thus improving their ability to perceive their own emotions and those of others, i.e., improving the level of emotional perception and conducting systematic emotional competence and behavioural training. Therefore, each university should set up an emotion management group for college students, actively carry out training activities on their emotions, guide them in the management of their emotions, and provide a variety of ways for them to vent their emotions. The ultimate goal is to improve the ability of students to manage. Meanwhile, universities should change their traditional teaching methods, infuse emotional intelligence education and improve students' emotional intelligence. Educators should skilfully infiltrate the cultivation of emotional intelligence into the specific education and teaching activities. Educators should change the traditional teacher-centred approach to teaching and use real-life examples and group discussions to enhance students' interest and involvement in learning, their ability to cooperate with others, their ability to fully understand others, and their ability to manage their own emotions and the emotions of others. Efforts should be made to develop students' ability to use their emotions well. The negative emotions of college students cannot be ignored, and it is necessary to strengthen their psychological resilience and mental capacity. Students should be given the right guidance to learn to adequately regulate their negative emotions and know how to take reasonable actions based on their own emotions and the emotions of others. The aim is to improve the use of emotions to improve students' emotional intelligence.

4. The importance of family education to the development of employability cannot be ignored.

The most social unit of society is the family. Parents are the first teachers of their children and the way in which they teach and the atmosphere in the family play a very important role in the development of their children. Family education has a direct impact on children's

emotional intelligence, as well as on the formation and inculcation of interests, hobbies and personalities, which have a direct impact on the development of employability. It is necessary to incorporate the development of emotional intelligence in every detail of children's school time and life. By studying the personal upbringing of eminent psychologists, anthropologists, biologists and physicists and their personality traits, American clinical psychologist Anne Roe found that the different styles of education they received early on influenced the types of careers they pursued and the levels they were likely to achieve in their chosen fields (Roe, 1953). Harvey (2001) argues that graduates with employability should generally have the following attributes and abilities: the ability to present themselves, communication skills and interpersonal skills. Employability is a combination of skills, power of comprehension and individual attributes that can make students more likely to be employed and successful in their chosen careers and benefiting them personally, socially and economically. One's subjective efforts and the external environment both have important effects on their personal growth. Students themselves must understand their weaknesses. This study demonstrates that emotional intelligence is a key determinant of employability and that employability as a career development tool is in turn the key to one's career success. Due to individual differences and individual environmental factors, family education focuses on developing good interpersonal communication skills, developing self-marketing skills in daily life, and continuously improving emotional intelligence skills by sharing knowledge and collaborating with others.

5.7 Limitations and prospects

This study provides an in-depth exploration of graduates' employment by demonstrating through empirical analysis the measurement indicators as well as antecedents and outcome variables of their employability. Through extensive literature review, a solid theoretical foundation for the study is provided; the reliability of the survey data is also ensured to a certain extent through multiple reliability and validity tests of the items of the measurement questionnaire. Nevertheless, the present study has the following limitations, based on which suggestions for future research are put forward.

First, this study conducted two questionnaire surveys but the follow-up survey on employment after two years only selected graduates from a single place of affiliation for one-to-one matching and measurement, which may lead to limitations in the application and generalisation of the study results. In future studies, fresh graduates should be randomly selected across the country, with such influencing variables as geography as well as grades and

categories of universities balanced to expand the sample size and improve the generalisability of the study results. Further ongoing surveys should also be conducted for a comparative analysis and correlation analysis of the employment outcomes of college students some time, such as two years or five years, after graduation. The findings of the present study may be limited due to lack of generalisability, which requires future studies to ideally expand their own research population for further validation of the study.

Second, as the sample for this study was drawn exclusively from graduates in China, whether the measured results can be applied in other countries needs to be further explored, and the measured results can be cross validated in future studies across different cultural contexts.

Third, future research could capture and explore how employers' recruitment outcomes and personnel assessments (such as measures of work competencies among civil servants) are related to college students' employability (CGES).

In short, satisfactory employment can lead to a bright and successful life for graduates. In today's world, graduates' employment is constrained by various relationships, and graduate employability is the core for graduates throughout the entire process of higher education (Y. C. Zhang & Zhao, 2009). It is not only a dynamic and changing reality but also a comprehensive and complex theoretical issue. It is closely related to not only higher education but also the dynamic changes of the relationship between higher education and the labour market. As the trend of mass higher education persists and the socio-economic development changes rapidly, the topic of graduate employability is in urgent need of more in-depth research.

Bibliography

- A, P. (1996). 劳动部提出: 职业培训集团化 [Ministry of Labour proposes: Collectivization of vocational training]. *Overseas Travel and Employment*, (09), 3.
- American Society for Training and Development. (2012, October). *Bridging the skills gap: help wanted, skills lacking: why the mismatch in today's economy?* Retrieved February 23, 2022, from https://www.nist.gov/system/files/documents/mep/Bridging-the-Skills-Gap_2012.pdf
- Anderson, E., & Marshall, P. (1999). *Core competence and specific vocational ability*. Perginond Press.
- Andrews, J., & Higson, H. (2008). Graduate employability, 'soft skills' versus 'hard' business knowledge: A European study. *Higher Education in Europe*, 33(4), 411-422.
- Astakhova, M. N. (2016). Explaining the effects of perceived person-supervisor fit and person-organization fit on organizational commitment in the US and Japan. *Journal of Business Research*, 69(2), 956-963.
- Australian Chamber of Commerce and Industry. (2021, May). *Australian strategy for international education 2021-2030*. Retrieved February 23, 2022, from https://www.australianchamber.com.au/wp-content/uploads/2021/05/ACC%C2%ADIAustralia-International-Education-Strategy_Final.pdf
- Australian Education Council. Mayer Committee. (1992). Putting general education to work: The key competencies report. In J. Beals (Ed.), *Self marketing power: Branding yourself as a business of one* (pp. 1-57). Australian Education Council and Ministers of Vocational Education, Employment and Training.
- Beals, J. (2011). *Self marketing power: Branding yourself as a business of one*. Keynote Publishing LLC.
- Becker, G. S. (1975). *Human capital: A theoretical and empirical analysis, with special reference to education, second edition*. NBER.
- Betts, J. R., & Shkolnik, J. L. (2000). The effects of ability grouping on student achievement and resource allocation in secondary schools. *Economics of Education Review*, 19(1), 1-15.
- Bransford, J. D., Brown, A. L., & Cocking, R. R. (1999). *How people learn: Brain, mind, experience, and school*. National Academy Press.
- Brown, P., Hesketh, A., & Williams, S. (2003). Employability in a knowledge-driven economy. *Journal of Education and Work*, 16(2), 107-126.
- Cable, D. M., & DeRue, D. S. (2002). The convergent and discriminant validity of subjective fit perceptions. *Journal of Applied Psychology*, 87(5), 875.
- Cable, D. M., & Judge, T. A. (1996). Person-organization fit, job choice decisions, and organizational entry. *Organizational Behavior and Human Decision Processes*, 67(3), 294-311.
- Carless, S. A. (2005). Person-job fit versus person-organization fit as predictors of organizational attraction and job acceptance intentions: A longitudinal study. *Journal of Occupational and Organizational Psychology*, 78(3), 411-429.
- Chen, H. Y. (2011). *Preliminary construction of college students' employability model* [Master's thesis]. Shaanxi Normal University.
- Chen, J. T. (2012). 大学生就业能力与高校的课程设置——来自美国高校的启示 [College students' employment and university curriculum: Enlightenment from the United States]. *China Higher Education*, (3), 75-78.
- Chen, S. Y. (2003). *Career counseling for college students (Vol. 2)*. Beijing Publishing House.
- Chen, Y. (2012). *Study on undergraduates employability and its development approach* [Doctoral dissertation]. Zhejiang University.

- Chen, Z. W., Chen, Z. L., & Wu, G. J. (2008). 浅谈普通高校大学生职业核心能力的培养 [A brief discussion on the cultivation of vocational core competencies of college students in regular institutions of higher learning]. *Legal System and Society*, (26), 252-254.
- Cheng, W., & Zhi, S. H. (2016). 职业发展视角的大学生就业能力建模[Modelling of employability of university students from the perspective of career development]. *Chongqing Higher Education Research*, 4(4), 102-110.
- Confederation of British Industry (CBI). (1998). *The OCR guide to employability*. Retrieved February 23, 2022, from <https://www.ocr.org.uk/Images/168823-the-ocr-guide-to-employability.pdf>
- Cooper-Thomas, H. D., Van Vianen, A., & Anderson, N. (2004). Changes in person-organization fit: The impact of socialization tactics on perceived and actual P-O fit. *European Journal of Work and Organizational Psychology*, 13(1), 52-78.
- Covey, S. R. (1989). *The 7 habits of highly effective people* (Vol. 1). Simon & Schuster New York.
- Cui, H. Y., Wang, S. X., & Li, R. R. (2010). 大学生就业能力解析及就业能力提升策略——基于 SWOT 理论的视角[Analysis of college students' employability and strategies for improving employability: Based on SWOT Theory]. *Research on Higher Education (Chengdu)*, 27(2), 27-31.
- Cui, Y. H., & Wei, J. (2006). 提高大学生就业能力的对策研究 [Improving college student's job hunting capability]. *Economic & Trade Update*, (9), 34-35, 38.
- De Guzman, A. B., & Choi, K. O. (2013). The relations of employability skills to career adaptability among technical school students. *Journal of Vocational Behavior*, 82(3), 199-207.
- Deng, W. J. (1998). 下岗职工与再就业工程的相互适应 [Mutual adaptation of laid-off workers and re-employment projects]. *Development Forum*, (9), 55-56.
- Ding, F. (2015). *Research on college students' employability in the era of boundaryless career* [Doctoral dissertation]. Ocean University of China.
- Ding, Y. Z. (2003). 正确认识当前“大学生就业难”问题 [Correct understanding of the current “employment difficulty facing college students”]. *Macroeconomics*, (3), 3-6, 28.
- Dong, B. S. (2007). *Difficulties in job hunting for college students are a result of their poor employability*. China Youth Daily.
- Downey, H. K., Don, H., & Slocum Jr, J. W. (1975). Congruence Between Individual Needs, Organizational Climate, Job Satisfaction and Performance1. *Academy of Management Journal*, 18(1), 149-155.
- Eagly, A. H., & Wood, W. (1991). Explaining sex differences in social behavior: A meta-analytic perspective. *Personality and Social Psychology Bulletin*, 17(3), 306-315.
- Extremiera, N., Ruiz-Aranda, D., Pineda-Galán, C., & Salguero, J. M. (2011). Emotional intelligence and its relation with hedonic and eudaimonic well-being: A prospective study. *Personality and Individual Differences*, 51(1), 11-16.
- Fan, A. Q. (1984). 论中等教育结构改革与社会就业 [Structural reform of secondary education and social employment]. *Journal of Hunan Normal University (Social Sciences)*, (04), 99-106.
- Fan, Z. Y., Xie, C., & Gao, L. (2006). 关于毕业生就业力培养模式的初探[On the graduates' employability training model]. *China University Students Career Guide*, (10), 47-48.
- Forrier, A., & Sels, L. (2003). The concept employability: A complex mosaic. *International Journal of Human Resources Development and Management*, 3(2), 102-124.
- Fugate, M., & Ashforth, B. E. (2003, August). *Employability: The construct, its dimensions, and applications*. Academy of Management Proceedings, Briarcliff Manor, NY.

- Fugate, M., & Kinicki, A. J. (2008). A dispositional approach to employability: Development of a measure and test of implications for employee reactions to organizational change. *Journal of Occupational and Organizational Psychology*, 81(3), 503-527.
- Fugate, M., Kinicki, A. J., & Ashforth, B. E. (2004). Employability: A psycho-social construct, its dimensions, and applications. *Journal of Vocational Behavior*, 65(1), 14-38.
- Gao, Y., Liu, Z. M., & Fang, P. (2010). 人力资本、家庭资本与大学生就业政策绩效——基于江苏省 20 所高校的经验研究 [Human capital, family capital and the performance of employment policy: An empirical study based on 20 universities in Jiangsu Province]. *Journal of Higher Education*, 31(08), 56-63, 99.
- Gao, Y., Liu, Z. M., & Fang, P. (2012). 人力资本对高校学生初次就业质量的影响——基于 2010 年网络调查数据的实证研究 [Human capital's impact on the quality of the first job for college students: An empirical study based on the network survey data in 2010]. *Education Science*, 28(2), 77-85.
- Gao, Y. H., Liang, F. M., & Fan, L. (2009). 大学生就业能力结构要素的实证研究 [An empirical study on structural elements of college students' employability]. *Education and Vocation*, (21), 79-81.
- Gaspersz, J., & Ott, M. (1996). *Management van employability: nieuwe kansen in arbeidsrelaties*. Van Gorcum.
- Gazier, B. (2001). *Employability: From theory to practice*. Routledge.
- Ge, J. (2009). *Analyzing the difference of the employability between the university graduates' self-recognition and the enterprises' requirement: Taking Shanghai area as an example* [Master's thesis]. East China Normal University.
- Gehman, J., Trevino, L. K., & Garud, R. (2013). Values work: A process study of the emergence and performance of organizational values practices. *Academy of Management Journal*, 56(1), 84-112.
- Gittell, J., H., & Douglass, A. (2012). Relational bureaucracy: Structuring reciprocal relationships into roles. *Academy of Management Review*, 37(4), 709-733.
- Goleman, D. (1995). *Emotional intelligence*. Bantam Books, Inc.
- Grossman, M., & Wood, W. (1993). Sex differences in intensity of emotional experience: a social role interpretation. *Journal of Personality and Social Psychology*, 65(5), 1010.
- Guo, Z. L., Wang, N., & Jiang, S. H. (2019). 供给侧改革背景下大学生就业核心竞争力结构模型的构建 [Construction of structural model of core competitiveness of college students' employment in the context of supply-side reform]. *China University Students Career Guide*, (15), 50-54.
- Guo, Z. W., & van der Heijden, B. I. (2006). Employability in the era of boundaryless career: A new psychological contract. *Psychological Science*, 29(2), 485-486.
- Harvey, L. (1999). *Employability: Developing the relationship between higher education and employment*. Retrieved March 17, 2022, from <https://www.qualityresearchinternational.com/Harvey%20papers/Harvey%201999%20New%20Realities%20EAIR%20Lund.pdf>
- Harvey, L. (2001). Defining and measuring employability. *Quality in Higher Education*, 7(2), 97-109.
- Hayes, J. L. (1979). A new look at managerial competence: The AMA model of worthy performance. *Management Review*, 68(11), 2-3.
- Higher Education Quality Committee. (2004, April). *Criteria for institutional audits*. Retrieved February 23, 2022, from http://www.uct.ac.za/usr/ipd/HEQC/HEQC_IACriteria.pdf
- Hillage, J., & Pollard, E. (1998). *Employability: developing a framework for policy analysis*. Retrieved March 13, 2022, from

- https://dlwqtxtslxzle7.cloudfront.net/43539201/Employability_Developing_a_framework_for20160309-24658-lixlnw2-with-cover-page-v2.pdf?Expires=1647136366&Signature=FzciCNdk6nnzuUtRxH7u0u7yqkuryVPcZsGLRc2mxkeyj8EpZVi6bbN4xCFpcByvxhsJ-ooLRogD7b1UtLLqLyvyfuIm1FWAq5BhnREXYyjiv2RP2U-Go8Q8kg4YIVdQI2aiklrm25IsfnGgi54watxBAjF0PN95MPnfcK9a5hzZQieJPTppPoWI07mYQ7GwZgKsODQgNsMY2LPSZTuK4aHSWg83oyvcRYJWsmA8SQEnWEiyUkOp8jjxGj~j01gtJOX2sYKGR4HjuPJLDpvVZ2dChd16Wr~pPYNoJLTU44y-zeAs0dwMx7JHsHHWDtx-PP19POYk0irSejhD2mCNeQ__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA
- Hoffman, B. J., & Woehr, D. J. (2006). A quantitative review of the relationship between person-organization fit and behavioral outcomes. *Journal of Vocational Behavior*, 68(3), 389-399.
- Hogan, R., Chamorro-Premuzic, T., & Kaiser, R. B. (2013). Employability and career success: Bridging the gap between theory and reality. *Industrial and Organizational Psychology*, 6(1), 3-16.
- Hong, Y., & Wu, J. H. (2011). 高校大学生就业竞争力实证研究及思考 [Empirical research and thinking on college students' employment competitiveness]. *Population & Economics*, (02), 39-44.
- Hou, Y. X. (2013). 无边界职业生涯视域下大学生就业能力现状分析 [College students employability from perspective of boundaryless career]. *China University Students Career Guide*, (24), 51-55.
- Hou, Z. J., Leung, S. A., Li, X., Li, X., & Xu, H. (2012). Career adapt-abilities scale—China form: Construction and initial validation. *Journal of Vocational Behavior*, 80(3), 686-691.
- Howard, A. E. (1995). *The changing nature of work*. Jossey-Bass.
- Hu, Z. L., Liu, S., & Cheng, A. X. (2008). 国外大学生就业能力研究及其启示 [Review of the studies on graduate employability abroad and their enlightenment]. *Comparative Education Review*, 30(8), 24-28.
- Hu, Z. X. (2015). 英国大学生就业能力培育机制研究——基于国家层面的考察 [A study of the employability development mechanism of college students in the UK: A national-level study]. *Higher Education Exploration*, (04), 37-43.
- Huang, J. B. (2008). *Employability and graduates' employment: The perspective of human capital*. Economic & Management Publishing House.
- Industry Channel. (2020, February 26). *Analysis of the employment status of Chinese college graduates in 2019, the number of Chinese college graduates in 2020. the employment environment and college students' expectations for employment prospects*. Retrieved November 15, 2021, from <https://www.chyxx.com/industry/202002/837558.html>
- International Labour Organization (ILO). (2000). *Skills, knowledge and employability*. Retrieved February 23, 2022, from <https://www.ilo.org/global/topics/skills-knowledge-and-employability/lang--en/index.htm>
- Jansen, K. J., & Kristof-Brown, A. (2006). Toward a multidimensional theory of person-environment fit. *Journal of Managerial issues*, 18(2), 193-212.
- Jia, J. F., Zhao, X. N., Sun, S. M., & Zhao, W. J. (2011). 大学生就业胜任特征结构模型的实证研究 [Empirical study on the employment competency structure model of undergraduates]. *Research in Higher Education of Engineering*, (6), 92-97.
- Jia, L. J. (2007). *A study of the employability structure of college students* [Doctoral dissertation]. East China Normal University.

- Jiang, D. Y. (2011). 中国职业教育发展与改革: 经验与规律[Reform and development of vocational education in China: experiences and rules]. *Vocational and Technical Education*, 19(32), 5-10.
- Jiao, P. (2020). The number of college graduates hit a record high of 8.74 million in 2020. *Xinhua News Agency*.
- Jin, H. W., Li, C. X., & Du, C. P. (2013). 论大学生就业能力的结构及与社会需求的差异[On the structure of college students' employability and the difference between it and social demand]. *Heilongjiang Researches on Higher Education*, 31(4), 98-100.
- Jin, X. (2012). 当代大学生就业能力结构及其现状的实证研究 [The empirical research on the construct and the status quo of contemporary college students' entrepreneurship]. *Journal of Northeast Normal University (Philosophy and Social Sciences)*, (6), 237-240.
- Judge, T. A. (1994). Person-organization fit and the theory of work adjustment: Implications for satisfaction, tenure, and career success. *Journal of Vocational Behavior*, 44(1), 32-54.
- Kleinman, M., & West, A. (1998). Employability and the new deals: Employability is what the government wants but what exactly is it? *New Economy*, 5(3), 174-179.
- Knight, P. T., & Yorke, M. (2002). Employability through the curriculum. *Tertiary Education and Management*, 8(4), 261-276.
- Kristof, A. L. (1996). Person-organization fit: An integrative review of its conceptualizations, measurement, and implications. *Personnel Psychology*, 49(1), 1-49.
- Kristof-Brown, A. L., Zimmerman, R. D., & Johnson, E. C. (2005). Consequences OF INDIVIDUALS'FIT at work: A meta-analysis OF person-job, person-organization, person-group, and person-supervisor fit. *Personnel Psychology*, 58(2), 281-342.
- Lai, D. S. (2001). 劳动力市场分割与大学毕业生失业 [Segmentation of labour market and graduate unemployment]. *Journal of Beijing Normal University (Social Sciences)*, (4), 69-76.
- Lai, D. S. (2014). *It is of far-reaching significance to promote high quality employment of college students*. Tencent Finance and Economics. Retrieved May 23, 2014, from <https://finance.qq.com/a/20140523/039834.htm>
- Lai, S. Z. (2010). *A course without a textbook: An analysis of the journey of constructing employability for participants of the program course* [Master's thesis]. National Taiwan Sport University.
- Lair, D. J., Sullivan, K., & Cheney, G. (2005). Marketization and the recasting of the professional self: The rhetoric and ethics of personal branding. *Management Communication Quarterly*, 18(3), 307-343.
- Lauver, K. J., & Kristof-Brown, A. (2001). Distinguishing between employees' perceptions of person-job and person-organization fit. *Journal of Vocational Behavior*, 59(3), 454-470.
- Lei, T., & Yu, W. H. (2005). 关于高师大学生就业能力及其培养缺陷的思考 [On the thinking of employment abilities of students in the normal universities or colleges and training defects]. *Journal of Jiangxi Normal University*, 38(3), 95-98.
- Lewin, K. (1951). Field theory in social science: selected theoretical papers. In D. Cartwright (Ed.), *The ANNALS of the American Academy of Political and Social Science* (pp. 346). Harper & Brothers.
- Li, F., Ke, F., & Wen, P. (2012). 大学生择业期望现状及差异性分析研究——以武汉市七所部属高校为例 [The analysis of present situation and differences of undergraduates' career expectations in china: the case of seven universities belong to the ministry of education in Wuhan]. *Population & Development*, (4), 21-29.
- Li, J. K. (2012). 大学生就业能力的结构及影响因素研究 [The structure and influencing factors of the employability of college students]. *China Youth Study*, (11), 89-92.

- Li, M. F., & Lu, X. J. (2004). 胜任力与胜任力模型构建方法研究 [Research on competency and competency modelling]. *Journal of Dalian University of Technology (Social Sciences)*, (1), 28-32.
- Li, R. D., & Zhang, B. (2021). 企业人力资源开发视角下大学生就业能力提升路径研究 [The path of enhancing college students' employability from the perspective of enterprise human resource development]. *China Management Informationization*, (22), 132-133.
- Li, W., & Yue, C. J. (2009). 2007 年高校毕业生就业影响因素分析 [An analysis of factor affecting employment of graduates in 2007]. *Tsinghua Journal of Education*, 30(1), 88-95.
- Li, Y., Liu, S. S., & Weng, S. Z. (2005). 大学生就业能力对就业质量的影响 [The impact of college students' employability on employment quality]. *Higher Education Exploration*, (2), 91-93.
- Li, Y. M., Zou, H., Li, J., & Wei, S. N. (2016). 被高估的情绪智力——基于构念和功能的分析 [Overvalued emotional intelligence: conceptualization and function analysis]. *Journal of Beijing Normal University (Social Sciences)*, (4), 31-42.
- Li, Z. Y., & Wang, Y. T. (2009). 大学生就业能力分析 & 培养对策 [Analysis of students' employability and countermeasures for cultivation]. *Education and Vocation*, (4), 94-95.
- Liang, G. D. (2014). 地方高校提升大学生就业能力的路径研究 [The path to enhance the employability of college students in local colleges and universities]. *Heilongjiang Animal Science and Veterinary Medicine*, (8), 18-19.
- Liu, D., & Jiao, R. K. (2017). 我国大学生情绪智力变迁的横断历史研究: 2000-2014 [A cross-sectional historical study on emotional Intelligence changes of College Students in China: 2000-2014]. *Heilongjiang Researches on Higher Education*, (9), 113-116.
- Liu, L. F., & Qu, Y. D. (2007). 高等教育规模扩张与大学生就业——期望理论的视角 [Higher education expansion and college students' employment: From the perspective of expectancy theory]. *Heilongjiang Researches on Higher Education*, (02), 70-72.
- Liu, X. L. (2005). 大学生就业力现状及其提高 [The status quo of college students' employability and its improvement]. *Studies on Township Enterprises*, (14), 18-20.
- Lou, X. J., Zhou, S. H., & Wu, L. Y. (2005). 大学生就业竞争力分析 [Analysis of college students' employment competitiveness]. *Research in Educational Development*, (7), 49-52.
- Lowden, K., Hall, S., & Elliot, D., & Lewin, J. (2011). *Employers' perceptions of the employability skills of new graduates*. Edge Foundation.
- Luo, Z., Fang, P., Fu, J. J., Zhang, T. Y., Zhang, Y. J., & Zhao, J. (2010). 大学生就业能力的结构初探 [The theoretical structure of Chinese college students' employability]. *Psychological Exploration*, 30(1), 74-77.
- Ma, S. Z., Zhu, Y. H., & Zhang, W. H. (2012). 中国大学毕业生就业能力维度结构与测量 [The employability constructs of Chinese undergraduates]. *Population & Economics*, (4), 34-42.
- Ma, Y. X., Xue, H., & Xing, Q. Q. (2020). 雇主导向的英国高校大学生就业能力培养: 理念与实践 [Employer-orientated employability training for college students in Britain: Principle and practice]. *Studies in Foreign Education*, 47(6), 23-41.
- Ma, Y. X., Zhang, X., & Shi, H. (2019). 大学生就业能力的“双顾客”满意度评价研究 [Dual-customer satisfaction evaluation on undergraduate employability]. *Education & Economy*, (3), 11-19.
- Manai, A., & Holmlund, M. (2015). Self-marketing brand skills for business students. *Marketing Intelligence & Planning*, 33(5), 749-762.
- Mayer, J. D., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D. Sluyter (Eds.), *Emotional development and emotional intelligence: Implications for educators* (pp. 3-31). Basic Books.

- McCall, J. J. (1970). Economics of information and job search. *The Quarterly Journal of Economics*, 84(1), 113-126.
- McClelland, D. C. (1973). Testing for competence rather than for "intelligence.". *American psychologist*, 28(1), 1.
- McCorkle, D. E., Alexander, J. F., Reardon, J., & Kling, N. D. (2003). Developing self-marketing skills: Are marketing students prepared for the job search? *Journal of Marketing Education*, 25(3), 196-207.
- McIntyre, H. H. (2010). Gender differences in the nature and linkage of higher-order personality factors to trait and ability emotional intelligence. *Personality and Individual Differences*, 48(5), 617-622.
- McKenna, C. J. (1985). *Uncertainty and the labour market*. St. Martin's New York.
- McLaughlin, M. (1995). *Employability skills profile: What are employers lookingfor?* . ERIC Development Team. Retrieved February 22, 2022, from <https://files.eric.ed.gov/fulltext/ED399484.pdf>
- McQuaid, R. W., & Lindsay, C. (2005). The concept of employability. *Urban studies*, 42(2), 197-219.
- Mertens, D. S. (1974). Thesen zur Schulung für eine moderne Gesellschaft. *Mitteilungen aus der Arbeitsmarkt-und Berufsforschung*, 1, 36-43.
- Min, W. F., Ding, X. H., Wen, D. M., & Yue, C. J. (2006). 2005 年高校毕业生就业状况的调查分析 [An empirical study on the employment of graduates in 2005]. *Journal of Higher Education*, 27(1), 31-38.
- Mitchell, A. G. (1998). *Strategic training partnerships between the State and enterprises*. International Labour Organization.
- Moos, R. H. (1987). Person-environment congruence in work, school, and health care settings. *Journal of Vocational Behavior*, 31(3), 231-247.
- Morley, L. (2001). Producing new workers: Quality, equality and employability in higher education. *Quality in Higher Education*, 7(2), 131-138.
- Murray, E., McLeod, S., Biesiekierski, J., Ng, A., Croxford, S., Stirling, E., Bramley, A., & Forsyth, A. (2020). Employability initiatives in undergraduate education and application to human nutrition: A scoping review. *Journal of Teaching and Learning for Graduate Employability*, 11(1), 63-80.
- MyCOS Research Institute. (2021). *Blue book of employment: Chinese four-year college graduates' employment annual report (2018)*. Social Sciences Academic Press.
- Nolen-Hoeksema, S., & Aldao, A. (2011). Gender and age differences in emotion regulation strategies and their relationship to depressive symptoms. *Personality and Individual Differences*, 51(6), 704-708.
- O'Boyle Jr, E. H., Humphrey, R. H., Pollack, J. M., Hawver, T. H., & Story, P. A. (2011). The relation between emotional intelligence and job performance: A meta-analysis. *Journal of Organizational Behavior*, 32(5), 788-818.
- O'Connell, D. J., McNeely, E., & Hall, D. T. (2008). Unpacking personal adaptability at work. *Journal of Leadership & Organizational Studies*, 14(3), 248-259.
- O'Reilly, C. A., & Chatman, J. (1986). Organizational commitment and psychological attachment: The effects of compliance, identification, and internalization on prosocial behavior. *Journal of Applied Psychology*, 71(3), 492.
- Ouchi, W. G. (1980). Markets, bureaucracies, and clans. *Administrative Science Quarterly*, 25(1), 129-141.
- Overtom, C. (2000). *Employability skills: An update*. ERIC Digest No. 220. Retrieved February 22, 2022, from <https://files.eric.ed.gov/fulltext/ED445236.pdf>

- Parker, J. D. A., Summerfeldt, L. J., Hogan, M. J., & Majeski, S. A. (2004). Emotional intelligence and academic success: Examining the transition from high school to university. *Personality and Individual Differences*, 36(1), 163-172.
- Pervin, L. A. (1968). Performance and satisfaction as a function of individual-environment fit. *Psychological bulletin*, 69(1), 56.
- Petrides, K. V., Frederickson, N., & Furnham, A. (2004). The role of trait emotional intelligence in academic performance and deviant behavior at school. *Personality and Individual Differences*, 36(2), 277-293.
- Phelps, E. S. (1970). Microeconomic foundations of employment and inflation theory.
- Ployhart, R. E., & Bliese, P. D. (2006). Individual adaptability (I-ADAPT) theory: Conceptualizing the antecedents, consequences, and measurement of individual differences in adaptability. In C. Shawn Burke, L. G. Pierce, & E. Salas (Eds.), *Understanding adaptability: A prerequisite for effective performance within complex environments* (pp. 3-39). Emerald Group Publishing Limited.
- Pool, D., & Sewell, P. J. (2007). The key to employability: developing a practical model of graduate employability. *Education + Training*, 49(4), 277-289.
- Posner, B. Z. (1992). Person-organization values congruence: No support for individual differences as a moderating influence. *Human relations*, 45(4), 351-361.
- Precision Consultancy. (2006). *Employability skills: from framework to practice: an introductory guide for trainers and assessors*. S. a. T. Department of Education.
- Qiao, Z. H., Wang, S., Xie, B. Q., & Wang, Z. (2011). 大学生就业能力的结构及其对就业结果的影响[The construct of graduates' employability and its effect on graduates' employment results]. *Psychological Development and Education*, 27(3), 274-281.
- Qiu, H. Z. (2009). *Quantitative research and statistical analysis: SPSS (Chinese edition) data analysis examples*. Chongqing University Press.
- Qualification and Curriculum Authority. (2008, January). *QCA guidelines on recording personal, learning and thinking skills in the Diploma*. Retrieved February 23, 2022, from <https://dera.ioe.ac.uk/9322/1/QCAGuidelinesRecordingPLTSinDiploma.pdf>
- Ren, J. L. (2005). 关于提高大学生就业能力的几点思考 [Some thoughts on improving college students' employability]. *Education and Vocation*, (06), 47-48.
- Roe, A. (1953). A psychological study of eminent psychologists and anthropologists, and a comparison with biological and physical scientists. *Psychological Monographs: General and Applied*, 67(2), 1.
- Rothwell, A., & Arnold, J. (2007). Self-perceived employability: development and validation of a scale. *Personnel Review*, 36(1), 23-41.
- Rothwell, A., Herbert, I., & Rothwell, F. (2008). Self-perceived employability: Construction and initial validation of a scale for university students. *Journal of Vocational Behavior*, 73(1), 1-12.
- Rubin, L. B. (1983). *Intimate strangers: Men and women together*. Perennial Library.
- Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition and Personality*, 9(3), 185-211.
- Sanders, J., & Grip, A. (2003). *Training, task flexibility and low skilled workers' employability*. Research Centre for Education and the Labour Market, Faculty of Economics and Business Administration, Maastricht University.
- Saterfiel, T. H., & McLarty, J. R. (1995). *Assessing employability skills*. ERIC Clearinghouse.
- Savickas, M. L. (1997). Career adaptability: An integrative construct for life-span, life-space theory. *The Career Development Quarterly*, 45(3), 247-259.
- Schultz, T. W. (1961). Investment in human capital. *The American Economic Review*, 51(1), 1-17.

- Schutte, N. S., Malouff, J. M., Bobik, C., Coston, T. D., Greeson, C., Jedlicka, C., Rhodes, E., & Wendorf, G. (2001). Emotional intelligence and interpersonal relations. *The Journal of Social Psychology, 141*(4), 523-536.
- Secretary's Commission on Achieving Necessary Skills. (1991, June). *What work requires of schools. A scans report for America 2000*. Retrieved February 23, 2022, from https://www.collin.edu/academics/programs/Workforce_SCANS_Syllabi_Code_Key.pdf
- Shao, H. Y., & Hu, F. (2005). 大学生的就业能力探析 [Exploring the employability of college students]. *Higher Education Development and Evaluation, 21*(5), 15-17.
- Shen, J. H. (2005). 文秘人才就业能力分析及其培养体系的构筑[Employment competence of secretary majors and its cultivation system]. *Journal of Huzhou Teachers College, 27*(4), 132-135.
- Shen, J. X. (2020). 新时代高质量就业评价指标体系研究 [The evaluation index system of high quality employment in the new era]. *Statistical Theory and Practice, (6)*, 13-16.
- Shepherd, I. D. (2005). From cattle and coke to Charlie: Meeting the challenge of self marketing and personal branding. *Journal of Marketing Management, 21*(5-6), 589-606.
- Shi, Q. H., & Wen, J. (2012). 中国大学生的就业能力——基于学情调查的自我评价分析 [The employability of Chinese college students: Self-evaluation analysis based on academic situation survey]. *Peking University Education Review, 10*(1), 48-60.
- Shuker, L. (2014). 'It'll look good on your personal statement': self-marketing amongst university applicants in the United Kingdom. *British Journal of Sociology of Education, 35*(2), 224-243.
- Smith, E. (2019). *Competency-based training Australian style: how it exposes VET to risk*. Retrieved February 22, 2022, from https://avetra.org.au/data/Smith_CBT_final.pdf
- Song, G. X. (2008). 基于可雇佣性视角的大学生职业能力结构及其维度研究 [Study on structure and dimensions of professional skills for Chinese university graduates from the perspective of employability]. *China Soft Science, (12)*, 129-138.
- Spencer, L. M., & Spencer, S. M. (1993). *Competence at work: Models for superior performance*. John Wiley & Sons, Inc.
- Stigler, G. J. (1961). The economics of information. *Journal of Political Economy, 69*(3), 213-225.
- Stigler, G. J. (1962). Information in the labor market. *Journal of Political Economy, 70*(5, Part 2), 94-105.
- Tao, A. X. (2005). 大学生就业力培养途径探讨 [Exploring ways to develop college students' employability]. *Business Century, (5)*, 16.
- Tao, X. X. (2007). *The construction of competence model of graduates' general employability* [Master's thesis]. Jiangxi Normal University.
- Tegmark, M. (2017). *Life 3.0: Being human in the age of artificial intelligence*. Vintage.
- Terborg, J. R. (1981). Interactional psychology and research on human behavior in organizations. *Academy of Management Review, 6*(4), 569-576.
- The Conference Board of Canada. (2000). *Employability skills 2000+*. Retrieved February 22, 2022, from https://www.edu.gov.mb.ca/k12/cur/cardev/gr12_found/blms/blm18.pdf
- Tian, C. Y. (2013). 试论大学生就业能力的培养 [On the cultivation of college students' employment ability]. *China Adult Education, (17)*, 74-76.
- Tian, W. D. (2002). 浅谈如何提高就业能力 [On how to improve employability]. *Health Vocational Education, 20*(10), 86-87.

- Tong, J. X. (1997). 下岗女工的心态分析与再就业能力培训 [Analysis of the mentality of laid-off female workers and re-employability training]. *Chengcai*, (2), 24-25.
- Trow, M., Xu, D., & Lian, J. J. (2009). 从精英到大众再到普及高等教育的反思: 二战后现代社会高等教育的形态与阶段[Reflections on the transition from elite to mass to universal access: Forms and phases of higher education in modern societies since WWII]. *University Education Science*, (3), 5-24.
- Van den Berg, G. J., & Ridder, G. (1998). An empirical equilibrium search model of the labor market. *Econometrica*, 66(5), 1183-1221.
- Van der Heijde, C. M., & Van der Heijden, B. I. (2005). The development and psychometric evaluation of a multi-dimensional measurement instrument of employability—and the impact of aging. *International Congress Series*, 1280, 142-147.
- Van Vianen, A. E., Shen, C. T., & Chuang, A. (2011). Person–organization and person–supervisor fits: Employee commitments in a Chinese context. *Journal of Organizational Behavior*, 32(6), 906-926.
- Verquer, M. L., Beehr, T. A., & Wagner, S. H. (2003). A meta-analysis of relations between person–organization fit and work attitudes. *Journal of Vocational Behavior*, 63(3), 473-489.
- Wanberg, C. R., Watt, J. D., & Rumsey, D. J. (1996). Individuals without jobs: An empirical study of job-seeking behavior and reemployment. *Journal of Applied Psychology*, 81(1), 76.
- Wang, F. (2012). 美国高等教育运行机制对我国高等教育的启示[Implications of the operation mechanism of higher education in the United States for higher education in China]. *China Adult Education*, (22), 131-133.
- Wang, F. C., Wang, J. B., & Zeng, X. L. (2011). 基于雇主视角的大学生就业能力结构维度探析[Analysis on the structural dimensions of college students' employability from the perspective of employers]. *Journal of Guangdong Youth Leaders College*, 25(4), 70-74.
- Wang, J. G., & Chu, H. B. (2021). 大学生高质量就业能力评价——基于吉林省 2631 份调查数据 [The evaluation of college students' high-quality employment ability: Based on 2631 survey data in Jilin Province]. *Heilongjiang Researches on Higher Education*, (12), 123-129.
- Wang, J. T., & Sha, Z. B. (2018). 大学生就业能力结构分析及培育路径——基于用人单位的调查研究 [Analysis on the college students' employ ability structure and training strategy: Based on the perspective of employers]. *Collections*, 14(7), 653-659.
- Wang, L., & Lv, J. (2021). 大学生就业能力影响因素探讨 [A discussion on the influencing factors of college students' employment ability]. *Education and Teaching Forum*, (52), 161-164.
- Wang, M. Q. (2006). 企业用人标准与大学生素质匹配[Matching enterprise hiring standards with the quality of college students]. *Economic Management*, (3), 58-60.
- Wang, P. J. (2009). 大学生就业能力结构模型研究[Research on the structure model of college students' employability]. *Journal of Heilongjiang College of Education*, 28(11), 35-39.
- Wang, T. (2007). 我国职业技术学校学生就业能力技能要素研究——在交通行业的调查研究 [Research on the skill factors of the students' employability in vocational technology schools of china: Survey in the transportation industry]. *Education & Economy*, (4), 1-6.
- Wang, T., Zeng, X. Q., & Yang, Y. M. (2011). 提升就业能力解决大学生结构性失业问题研究[Improving employability for resolving the problem of the structural unemployment of university graduates]. *Population & Economics*, (3), 49-56.
- Wang, W. Y. (2018). *The influence of psychological capital of college students on the employment result: The mediating role of employability* [Master's thesis]. Beijing Foreign Studies University.

- Wang, X. J., & Sun, B. C. (2018). 近 30 年来国外大学生就业能力研究现状及进展 [The present situation and progress study of foreign college students' employability during last three decades]. *Education & Economy*, (5), 57-64, 72.
- Wang, Y. (2005). 就业能力: 促进高校毕业生就业的重要方面 [Employability: An important aspect of employment for graduates]. *Exploring Education Development*, (4), 31-34.
- Wang, Y. (2006). *The relationship between college students' career values and employability and employment performance* [Master's thesis]. Zhejiang University.
- Wei, H. L., Dai, Z. J., Ou, C. Y., Zhang, H. Y., & Pan, M. J. (2020). 大学生课堂展示能力与就业能力关系的实证研究 [An empirical study of the relationship between presenting skills and employability of college students]. *University (Academic)*, (02), 71-79.
- Wen, J. (2018). 劳动力市场需求下大学生就业能力战略规划研究——以福建省为例 [Research on strategic plan for college student employability under the demand of labor market: A case study of Fujian Province]. *Education and Examinations*, (2), 64-70.
- Wen, S. B. (2006). 基于人才强国战略的我国大学生就业能力开发策略研究 [A research on the development strategies of graduate employability and the cultivation of talents]. *Modern University Education*, (1), 101-108.
- Westerman, J. W., & Cyr, L. A. (2004). An integrative analysis of person-organization fit theories. *International Journal of Selection and Assessment*, 12(3), 252-261.
- Wong, C.-S., & Law, K. S. (2002). The effects of leader and follower emotional intelligence on performance and attitude: An exploratory study. *The Leadership Quarterly*, 13(3), 243-274.
- Wu, B., Tan, J., & Cai, T. (2007). 广东大学生就业心理调查分析 [An investigation and analysis on employment psychology of College students in Guangdong]. *Youth Exploration*, (4), 65-67.
- Xiang, C. W. (2007). 略论大学生就业能力的培养 [A brief discussion on the development of college students' employability]. *The Border Economy and Culture*, (5), 113-114.
- Xiao, Y., Du, Y., & Liu, X. (2007). 大学生就业能力与社会需求差异研究——基于对重庆市 1618 名大学生和 272 家用人单位的调查 [The difference between college students' employability and social demand: Based on a survey of 1618 college students and 272 employers in Chongqing]. *Higher Education Exploration*, (06), 130-133.
- Xiao, Y., & Xie, H. (2017). 基于三维资本角度的大学毕业生就业能力研究——以陕西某大学 2017 届本科毕业生为例 [Research on the employment ability of college graduates based on three-dimensional capital: taking graduates of one university in Shaanxi in 2017 as an example]. *Journal of Xi'an Shiyou University (Social Science Edition)*, 27(04), 37-43.
- Xiao, Y. J. (2009). 就业能力相关概念辨析 [Analysis of relevant concepts of employability]. *Forum on Contemporary Education*, (12), 90-92.
- Xie, J. (2012). *Development of employability index system and scale for college graduates* [Master's thesis]. Nanjing University of Technology.
- Xie, W. H., & Wang, H. C. (2001). *From job allocation to job selection: An empirical study on the employment status of college graduates*. Educational Science Publishing House.
- Xie, Y. Z., Chen, J., & Zhu, L. (2013). 就业能力的概念、结构和实证研究成果 [Employability: definition, structure and empirical findings]. *Advances in Psychological Science*, (3), 517-529.
- Xie, Z. Y. (2005). 关于培养大学生就业能力的思考 [Thoughts on cultivating college students' employability]. *Research in Educational Development*, (1), 90-92.
- Xiong, S. Y., & Huang, D. J. (2005). 大学生就业与就业能力培养 [Employment and employability development for college students]. *Journal of Chongqing University of Science and Technology (Social Sciences Edition)*, (z1), 107-110.

- Xu, C. Y. (2013). 我国大学生就业能力结构的实证研究 [An empirical study on the structure of Chinese college graduates' employability]. *Renmin University of China Education Journal*, (3), 35-43.
- Xu, S. Z., & Wen, J. (2021). 中国大学生就业能力研究的回顾与展望——基于 2010-2020 十年文献的分析 [Review and prospect of research on employability of college students in china:based on the analysis of literature in the past ten years from 2010 to 2020]. *Meitan Higher Education*, (6), 42-48.
- Xu, X. J. (2002). 大学生就业过程中的双重机制:人力资本与社会资本 [Dual mechanisms in the employment process of college students: Human capital and social capital]. *Youth Studies*, (6), 9-14.
- Xu, Y. J., & Gao, Q. Y. (2008). 试析大学生就业竞争能力的基本要素. 黑龙江高教研究 [On the basic elements of college students' employment competitiveness]. *Heilongjiang Researches on Higher Education*, (4), 108-110.
- Yang, L. M. (2008). 高等教育大众化理论的产生, 发展及意义 [The emergence, development and significance of the mass higher education theory]. *University Education Science (Higher Education Research)*, (3), 9-13.
- Yang, N. (2017). 市场营销专业大学生就业能力与社会需求匹配调查研究 [Research on the match between the employability of marketing students and social needs]. *Heilongjiang Education (Higher Education Research & Appraisal)*, (10), 77-79.
- Yang, X. H. (2012). “90 后”大学生就业能力结构模型研究 [Analysis on the structure of post-90s college graduates' employability]. *Population & Economics*, (2), 41-48.
- Yang, X. N. (2011). *Research on college students' employability of a university in Beijing* [Master's thesis]. Beijing Jiaotong University.
- Yang, Y. Q., & Fang, H. P. (2012). 从大中学教育衔接中所出现的新问题浅谈综合素质教育体系的重构 [The reconstruction of comprehensive quality education system from the perspective of the new problems in the connection between higher education and middle school education]. *Journal of Changchun University of Science and Technology*, (1), 3-4.
- Yao, X. G. (2009). 促进就业: 宏观调控的重中之重 [Promoting employment: the top priority of macroeconomic regulation and control]. *Zhejiang Economy*, (2), 32-33.
- Yao, X. G., & Sheng, L. (2006). 对当前大学生就业难的几点看法——由“大硕小硕”同场竞技想到的 [Several views on the current employment difficulty facing college students: Thoughts derived from the competition between postgraduates from ordinary institutions of higher learning and postgraduates from Project 211 and Project 985 universities]. *Zhejiang Economy*, (9), 24-25.
- Ye, Y. T. (2021). *Many colleges and universities released 2020 graduate employment quality reports*. China Youth Daily. Retrieved November 15, 2021, from http://guoqing.china.com.cn/2021-01/18/content_77125694.htm
- Yi, S. Z. (2016). 大学生的就业能力特点及其对不同群体的大学生就业结果的影响 [Employability characteristics of college students and their impact on the employment outcomes of different groups of college students]. *Journal of Mudanjiang College of Education*, (5), 66-67.
- Yu, M. Y. (2020). *The goals for education reform and development during the 13th Five-Year Plan period were achieved as scheduled*. China Education Daily. Retrieved November 15, 2022, from http://www.moe.gov.cn/fbh/live/2020/52692/mtbd/202012/t20201202_502840.html
- Yu, X. L. (2001). 试论持久性就业能力的培养 [On the development of sustained employability]. *China Labour*, (10), 28-29.

- Yue, C. J., & Bai, Y. P. (2018). 2017 年全国高校毕业生就业状况实证研究[An empirical study on graduates' employment: Based on 2017 national survey]. *Journal of East China Normal University (Educational Sciences)*, 36(5), 20-32, 165, 166.
- Zeng, X. Q. (2004). 变革中的就业环境与中国大学生就业 [The changing employment environment and the employment of Chinese college students]. *Economic Research Journal*, (6), 87-95.
- Zhang, C. F., Fang, J. B., & Li, J. (2020). “乡村振兴” 战略背景下大学生农村创业影响因素的评价研究 [Evaluation of influencing factors of college students' rural entrepreneurship under the background of rural revitalization Strategy]. *Forestry Education in China*, (6), 48-53.
- Zhang, H. H., & Wang, X. M. (2010). 金融危机下高校大学生就业能力培养与训练研究 [Cultivation and training of college students' employability in the financial crisis.]. *Continue Education Research*, (9), 148-150.
- Zhang, H. L. (2009). 关于大学生核心就业能力构成的研究 [Composition of the core employability of college students]. *Hubei Social Sciences*, (10), 177-180.
- Zhang, J., & Chen, M. Y. (2020). 应用型院校大学生可就业能力影响因素及其关系研究 [A study on the influencing factors and their relationships of the employability of students in application-oriented colleges]. *Journal of Tonghua Normal University*, (02), 105-110.
- Zhang, J. Q. (2016). 产业结构升级背景下对大学生就业能力培养探析——以“双困”大学生为例 [On the training of college students' employment ability under the background of industrial structure upgrading: In the “double storm” of college students as an example]. *On Economic Problems*, (11), 75-78.
- Zhang, L. H. (1995). 成人教育应注重培养学生的就业能力 [Adult education should focus on developing students' employability]. *Chengcai*, (5), 15.
- Zhang, L. H., & Liu, C. N. (2005). 大学生就业能力结构及发展特点的实验研究[An experimental study on the structure and development characteristics of college students' employability]. *Maritime Education Research*, 22(1), 52-55.
- Zhang, X. Y. (2020). 大学生就业能力影响因素探析 [Analysis on the influencing factors of college students' employability]. *Yangtze River Series*, (21), 137, 139.
- Zhang, Y. C., & Zhao, J. F. (2009). 加强大学生就业能力的培养, 提升就业核心竞争力 [Strengthening the training of college students' employability and enhancing their core competitiveness in employment]. *Modern Economics*, (6), 126-127.
- Zhang, Y. S., & Peng, Z. H. (2008). 大学生就业能力调查研究——来自大学在校生的调查 [A study of college students' employability: A survey from college students]. *Shaanxi Education*, (3), 114.
- Zhang, Z. S., & Li, F. H. (2011). 大学生网络成瘾现状调查 [An investigation on the status quo of university students' Internet addiction]. *Teacher Education Research*, 23(2), 44-48.
- Zhao, D. (2009). *Preliminary development of a self-assessment scale of college students' employability* [Master's thesis]. Sichuan Normal University.
- Zhao, S. P., & Zhao, L. (2004). 论大学生就业能力的发展 [On the development of college students' employability]. *Education and Vocation*, (21), 65-66.
- Zhao, W. D. (2013). *Model construction and empirical study on the influencing factors of employee-organization fit* [Doctoral dissertation]. University of Electronic Science and Technology of China.
- Zheng, J. (2004). 家庭社会经济地位与大学生就业——一个社会资本的视角 [Family socio-economic status and possibility of students' employment]. *Journal of Beijing Normal University (Social Science Edition)*, (3), 111-118.

- Zheng, X. M. (2002). “就业能力”论[On employability]. *Journal of China Youth College for Political Sciences*, 21(3), 91-92.
- Zhong, L. F., & Shi, K. (2003). 胜任特征研究的新进展 [The new development of the research of competencies]. *Nankai Business Review*, (02), 4-8.
- Zhou, F., & Lin, S. Y. (2020). 供给侧视域下大学生就业能力影响因素及提升路径 [The influencing factors and improving path of college students' employability in the supply side perspective]. *Journal of Jilin Agricultural Science and Technology University*, (04), 16-19.
- Zhou, H., & Wang, Y. B. (2020). 高校大学生就业能力的影响因素与提升策略 [Interfering factors and promotion strategies of the graduate employability in higher learning institutions]. *Journal of Shaanxi University of Technology (Social Sciences)*, 38(2), 55-63.
- Zhou, M., Pan, H., & Zhang, R. X. (2016). 大学生就业能力开发研究 [A study on employability development of college students]. *China Adult Education*, (20), 87-89.
- Zhou, Q. (2020). *A study on the employment of college students in China since the new century* [Master's thesis]. Qilu University of Technology.
- Zhu, H. L. (2021). 胜任力理论视角下高校毕业生就业能力提升研究——基于南京理工大学毕业生用人单位调查 [A study on the employability promotion of college graduates from the perspective of competency theory:based on nanjing university of science and technology graduate employers survey]. *China University Students Career Guide*, (22), 50-54.
- Zhu, X. B., & Tong, Z. Z. (1998). *Technical schools focus on enhancing students' employability* (Vol. 7-5343-3984-7). Jiangsu Education Yearbook.
- Zhu, X. C. (2009). 大学生就业能力心理结构探析 [Exploring the psychological structure of college students' employability]. *Educational Research and Experiment*, (3), 85-88.
- Zong, X. W., & Zhou, C. P. (2012). 人力资本对大学生就业能力的影响 [The impact of human capital on college students' employability]. *Jiangsu Higher Education*, (1), 97-98.