

Advances on College Students' Employability: A Comprehensive Review and Agenda for Future Exploration

Zemei Xu^{1,2}, Hanina H. Hamsan¹, Azlina Mohd. Khir¹

Faculty of Human Ecology, Universiti Putra Malaysia¹, Chongqing City Vocational College²

To Link this Article: <http://dx.doi.org/10.6007/IJARBS/v13-i12/20415> DOI:10.6007/IJARBS/v13-i12/20415

Published Date: 24 December 2023

Abstract

In this review, the author reviews the concepts, models, measurements of employability, and research on factors affecting college students' employability, and critically examines the development direction of employability research in the past few years. This review proposes to promote our understanding of college student employability in the dynamic work environment, providing an overall discussion of current discussions, and provide key directions for future research, which include Clearly defining the connotation and denotation of college students' employability; Forming a consensus on the dimensions of college students' employability; In-depth exploration of the formation mechanism of college students' employability; and Strengthening customized intervention research to improve college students' employability.

Keywords: Employability, Measure, Employment Structure Model, College Student

Introduction

Employment is the biggest livelihood and the most basic support for economic development. Employment of college students has become a very important social problem at present (Haibo Yu. et.al ,2014), and the employability of college students is its core content. in the long-term schooling practice, college education to a certain extent suffers from the contradiction of poor employment quality (Wang Hongjun, 2018). As Zheng Yali (2018) said, "In some places, some schools, and some majors, vocational education exists problems such as low degree of professional matching, low wage income and social security treatment, low employment satisfaction of students, relatively high turnover of students, and low degree of conformity between students' positions and employment expectations. More seriously, The dynamics of the professional landscape have undergone a transformative shift due to environmental changes, including heightened globalization, swift technological advancements, a more diverse workforce, and the widespread adoption of outsourcing, as well as the increased prevalence of part-time and temporary employment. These shifts have led to a reconfiguration of traditional organizational structures, alterations in employer-

employee relationships, and a fundamental change in the work context. Consequently, individuals are adapting their career approaches, emphasizing the pivotal role of individual employability in navigating these evolving trends (Michael Healy et al., 2020).

Environmental changes, such as increased globalization, rapid technological advancements, increased workforce diversity, and the expanding use of outsourcing and part-time and temporary employees, have changed traditional organizational structures, employer-employee relationships, and the work context, creating changes in how individuals enact their career (Michael Healy et al., 2020), which based on individual employability.

The Concept of college students' employability

Employability is studied from policy makers, scholars, and practitioners alike in different perspectives and at different levels (individual, organizational, industry) and spans multiple disciplines such as management, human resource management and development, education, psychology, and career theory, which lead to a wealth of interpretations and measures of employability (Forrier and Sels, 2003). Michael Healy et al. (2021) characterise employability as a proto-jurisdiction, it consider to be a collection of skills, knowledge, and personal traits that enable Individuals are safer and more successful in their chosen careers and benefit themselves, organizations, communities and economic development (Moreland, 2006). Generally speaking, it can be divided into employability based on personal characteristics and employability based on employment results. The former puts more emphasis on the factors that increase the possibility of employment, which is regarded as the competency characteristics (Van der Heijde et al., 2006), personality characteristics (Fugate & Kinicki, 2008) and Social capital characteristics (Leana & Van Buren, 1999). The latter puts more emphasis on employment outcomes, emphasizing the individual's overall perception of the possibility of obtaining and maintaining employment (De Cuyper, Mauno, Kinnunen, & Mäkikangas, 2011), which is an individual's self-evaluation of whether he can obtain and maintain employment.

First, It is Defined from the Perspective of the Characteristics of Employability Itself.

According to Yorke (2004), the employability of college students is a set of achievements, understanding and personal characteristics that enhance their likelihood of securing employment and making successful career choices.; the UK Higher Education Quality Council (Higher Education Quality Council) points out that employability of college students should include Analytical ability, ability to deal with complex things, communication ability, teamwork and coexistence ability, moral responsibility, social ability; Ayse G. Mitchell (2005) highlights the importance of intellectual ability, social and interpersonal skills, as well as business and entrepreneurship skills; Pallard (2005) proposed that the employability of college students should include ability assets, development ability, expression and adaptability, etc. Specially, in china, Zheng Xiaoming (2005) believes that the employability of college students can be divided into personal intelligence factors and non-intellectual factors. And Zhang Bitao, Li Bingkuan, and Li Guotao (2005) divided the employability of college students into two types: one is the basic ability, that is, the ability that must be possessed to complete learning activities, such as reading ability, comprehension ability, self-study ability and expression ability, etc.; The Other is special ability, that is, the talents and skills that ordinary college students have but others do not. At the same time, it is believed that the ability of learning and self-study is the foundation, the ability of analysis and research and creativity is the core, and the ability of organization and management and social activities are

the necessary guarantees. Liu Xingxin (2006) pointed out that the salient features of college students' employability are: one is gradual, and the other is practical. Cui Haiying et al. (2010) summarized the employability of college students into six abilities elements: analytical thinking ability, social adaptability, self-development ability, social practice execution ability, job application ability and impression management ability.

Second, it is Defined in Terms of the Outcome of Employability, Namely Employment.

Employability refers to an individual's capacity to secure and retain employment, advance in their career, and effectively navigate changes in their professional life. (the International Labour Organization, 1980 ; the U.S. Education and Employment Council,1989 ; Hillage J, Pollard E (1998) defined in the Employability Policy Analysis Report for the UK Department for Education and Employment that:" Employability involves the skill to secure initial employment, sustain current employment, and access new job opportunities as needed. .That is, the ability to flexibly realize one's potential in the labor market"; Further, employability is the ability and confidence to develop one's potential through adequate employment opportunities in the labor market (Hu Zunli et al., 2008). Sanders et al. (2004) define employability as the ability and willingness to enable individuals to be and continue to be attractive to the labor market; In China, according to Zheng Xiaoming (2002), employability is defined as the capability of college graduates to attain their employment goals, fulfill societal requirements, and actualize their personal value in social life through the acquisition of knowledge and the holistic development of their qualities during their academic tenure.

Whether foreign or domestic, researchers have not yet formed a unified view on the college students' employability. These above definitions concentrate on outcome or characteristics of employability, without placing emphasis on the individual, institutional, and socio-economic factors that impact the immediate employment and long-term career results of graduates (Clarke 2018; Holmes 2013). In fact, although it is a vague and self-evident definition, but it shows individual's employability in some degree.

Employability structure model

many studies have shown that employability is not a single-dimensional structure (Fugate et al., 2004), but a multi-faceted structure (Forrier & Seis, 2003). The USEM model, the Career EDGE—The Key to employability model, the competency-based approach to employability model, Psycho-social Construct Model and others have a very comprehensive description of the employability structure. These models start from an individual's intrinsic capital, focus on individual skills in the job search process, and also take environmental factors into account.see Figure 1.1 Summary of Major Employability structure model

USEM model

Peter Knight and Mantz Yorke(2003) originally proposed a simple employability model, which viewed employability as an organic combination of personal qualities, various skills, and disciplinary understanding. the USEM model consists of four components, in which disciplinary understanding refers to the development, analysis, exploration and challenge of knowledge systems, which is the interactive understanding of knowledge and skills; skills include general skills (problem solving) and professional skills (such as communication); personal qualities include self-efficacy and other personal characteristics;Meta-cognition include The control execution process that guides and regulates our cognitive or cognitive processes, and selects effective cognitive or cognitive strategies.

CareerEDGE-The Key to Employability model

Lorraine Dacre Pool and Peter Sewell(2007) proposed the Career-EDGE-The Key to Employability model. They argue that employability hinges on five domains: proficiency in professional knowledge and skills, general skills, emotional intelligence, work and life experiences, and a commitment to ongoing learning for career development. By critically assessing and appraising these facets, students can enhance their self-efficacy, self-confidence, and self-esteem, ultimately augmenting their employability.

Competence-based approach to employability model

Beatrice et al. (2006) proposed an employability model based on competency orientation, arguing that employability includes occupational expertise and four other general abilities: anticipation and optimization, Personal Adaptability, group awareness, and balance, a total of five dimensions, noting that professional skills are a prerequisite for employees to achieve positive career outcomes. Anticipation and optimization involve an individual's proactive initiative to adjust to evolving work content and creatively prepare for prospective shifts in the work environment, aiming to achieve the most favorable outcomes (Bhaerman & Spill, 1988; North, Mallabar, & Desrochers, 1988). Personal Adaptability is defined to Respond passively to environmental changes. Group Awareness, It means that employees are more involved as members of the entire team, identify with group goals, take responsibility for the team as a whole, and participate in the decision-making process. And Balance is Defined as the balance between the employer's interests and the employee's own work, career, personal interests, and compromises between the interests of both parties.

The emphasis on adaptability in this model is in line with the requirements of social development, but its team awareness and balance dimensions are more focused on the employability of the incumbents, which is a bit far from the situation of college students seeking employment.

Psycho-Social Construct Model

Fugate et al. (2004 & 2008) put forth the hypothesis that individual employability constitutes a psycho-social framework encompassing diverse attributes that foster adaptive cognition, adaptive behavior, and their resultant impacts. They posit that employability serves to optimize the interface between individuals and the workplace. The concept is suggested to incorporate elements found in the concepts of career identity, personal adaptation, and social and human capital, all of which influence active job adaptation. This model places emphasis on people-centered characteristics, aligning with a significant shift in the responsibility for career management and development from employers to employees (Hall & Mirvis, 1995). Further, Fugate (2008) verified its theoretical assumptions through empirical research, compiled an employability scale for organizational personnel in the face of change, and divided it into five dimensions: career identity, career motivation, and openness to changes in work, job and career flexibility, job and career foresight/initiative.

The Bioecological Model of Employability

The bioecological perspective combines individual characteristics and proximal processes, arguing that employability is the result of individual and contextual factors, and is both a personal meta-capability and a social construct. In this model, the first key element considers employability as an individual meta-capability. As in the expected socialization process, an individual cultivates an overarching employability meta-competence that

consolidates various essential competencies (Winterton, 2009). This includes a collection of behaviors, knowledge, thought processes, and/or attitudes, spanning from foundational to high-performance levels at an early stage (Warr and Conner, 1992). A second key element of employability involves seeing it as a social construct, and that this construct is active and intentional. Employability must be considered in the context of a specific social system and is a product of social regulation and power relations among social groups. From this angle, employability is a process that built upon the individual and collective histories of both individuals and societies. A social context is a set of nested structures around people (Bronfenbrenner, 2005), which allows us to define components of employability (Rothwell et al., 2008) or a set of indicators about it (Llinares et al., 2016). These metrics allow us to identify capacity for training, learning, and evaluation (eg, Buchmann, 2002; Fugate et al., 2004; McQuaid and Lindsay, 2005).based on the this model, Lucía et al. (2018) developed The Employability Appraisal Scale (EAS) and assessed its effectiveness using data collected from a diverse sample of 489 individuals, including precarious workers, professionals, prisoners, long-term unemployed individuals, and those who are socially excluded.

A holistic model of graduate employability

The model, introduced by Clarke (2018), synthesizes insights from both research and practical experience, proposing a reconceptualization of graduate employability. It posits that employability can be understood as comprising human capital, social capital, and individual behaviors and attributes. These elements collectively contribute to an individual's perceived employability within the labor market context and, in combination, exert influence on employment outcomes. Specifically, human capital, social capital, and individual attributes and behaviors shape an individual's perceived employability, subsequently impacting their approach to job search, whether they are entering the job market or seeking to change positions. Furthermore, perceived employability is not only influenced by individual factors but is also shaped by the prevailing conditions of the labor market. Simultaneously, labor market factors play a role in determining graduate employability as a metric of employment success.

As such, These constructs exhibit at least four similarities. First, these constructs are conceptualized (and operationalized) in terms of individual differences (for a review see Crant, 2000). Despite of differences in terminology and focus, we found that These constructs show a lot of overlap regarding several component dimensions of employability. these include human and social capital; generally skills; personal adaptation and so on. Second, it is reasonable to presume that all of these constructs have implications for behavior in diverse work situations. Third, the literature related to each construct at least suggests implications for proactive adaptability. Actually employability explicitly integrates proactivity and adaptability. Lastly, each construct is grounded in an action orientation, which is articulated as a predictor of employees reactive responses to situational demands (e.g., London, 1983; London & Noe, 1997; Noe et al., 1990).

although Similarities among these employment structure mode, there are some different charterers. First, Compared with USEM model, CareerEDGE-The Key to Employability model, Competence-based approach to employability model, The Bioecological Model of Employability, The Psycho-social Construct Model incorporates a broader spectrum of individual traits. Its concept of employability encompasses cognitive aspects (such as career identity), dispositional factors (like a propensity to learn), and market-interactive variables (including social and human capital). While these components are integral to a

comprehensive model of employability, they directly shape an individual's perceived employability. Moreover, in conjunction with labor market dynamics, they impact how an individual approaches job searching — in essence, influencing perceived employability. Second, employability is explicitly contextualized in work settings. This difference is critically important because it makes employability a more powerful predictor of many human resource oriented outcomes (e.g., selection, promotion, and turnover). Of the other constructs reviewed, only career motivation is directly conceptualized as a work domain construct. The others are more molar/general dispositions that researchers simply tested in the work context. Last, employability integrates the dispositional and situational elements of proactivity (Fugate,2004). By including social and human capital, employability provides a market-interfacing dimension not found in these other constructs(except a holistic model of graduate employability of Clark). although included human and social capital in a holistic model of graduate employability of Clark(2018), this model provide a framework for universities,not individulal's to help explore and explain graduate employability. Employability is not only the responsibility of the universities, and the employers, but also the responsibility of the individual.

so we suggest that future research in either context should include a broader definition of college student's employability,taking into consideration the concept dimensions from both contexts(in higher education and workplace learning).

Name	Author(s)	Definition/dimensions and Measurement
USEM model	Knight &York(2003)	It view employability as an organic combination of subject Understanding(the degree of mastery of professional knowledge), Skills (including professional and general skills), Efficacy Beliefs, and Meta-cognition.
CareerEDGE- The Key to Employability model	Lorraine Dacre Pool & Peter Sewell (2007)	it is defined by understanding of professional knowledge and skills, general skills, emotional intelligence, work and life experience, and learning for career development, And by reflecting and evaluating these aspects, it will help students to achieve a higher level of self-efficacy, self-confidence, and self-esteem, and ultimately improve their employability.
Competence- based approach to employability model	Beatrice et al. (2006)	employability includes professional skills and four other general abilities-anticipation and optimization, individual adaptability, group awareness, and balance- a total of five dimensions, noting that professional skills are a prerequisite for employees to achieve positive career outcomes.
Psycho-social Construct Model	Fugate et al(2004 & 2008)	Employability is a concept that contains commonalities in the concepts of career identity, personal adaptation, social and human capital that influence active job adaptation. Futher , Fugate(2008) compiled an employability scale.
The Bioecological	Winterton(2009), Lucía et al.(2018)	It combines individual characteristics and proximal processes, arguing that employability is the result of individual and contextual factors, and is both a

Model of Employability		personal meta-capability and a social construct. Futher, Lucía et al. (2018) compiled The Employability Appraisal Scale (EAS) , and using data from 489 people from a very heterogeneous sample (precarious workers, professionals, prisoners, long-term unemployed, socially excluded, etc.) to verify its effectiveness.
A holistic model of graduate employability	Clarke(2018)	graduate employability can be reconceptualised as comprising the human capital, social capital, and individual behaviours and attributes that underpin an individual’s perceived employability, in a labour market context, and that, in combination, influence employment outcomes.

Figure 1.1 Summary of Major Employability structure model

Measurement of college students' Employability

Before the 1960s, there were no standardized tools to assess college students' employability. Researchers commonly use 1 to 3 Likert-type questions to ask subjects to evaluate their employability (Osipow, 1999). After decades of development, researchers have developed a large number of employability measurement questionnaires. According to the information available to the author, researchers at home and abroad have developed at least 10 scales. Among them, four are the most influential: The dispositional employability scale, the Competence-based and multi-dimensional measure of employability, The perceived employability Scale, the Self-perceived Employability Scale (SPES) and Employability Appraisal Scale (EAS). see Figure 1.2 Assessment scales of college student’s Employability.

The dispositional employability scale

The Dispositional measure of employability (DME) as developed by Fugate and Kinicki (2008) assesses dispositional employability. They characterize it as a combination of individual differences that incline individuals toward proactive adaptability, particularly within the realms of work and careers. In essence, it reflects an individual's capacity to adjust to changes in the labor market to ensure ongoing employability. The scale, which consists of openness to changes at work, work and career proactivity, career motivation, work and career resilience, work identity, has 25 items on a 5-point Likert-type scale. And it was tested on employees.

The Competence-Based And Multi-Dimensional Measure Of Employability

The Competence-based and multidimensional measure of employability, developed by Van der Heijde and Van der Heijden (2006), concentrates on the pivotal competences in workers to enhance their employability, delivering advantages to both the employee and the employer. This scale differentiates across five dimensions of employability: occupational expertise, anticipation and optimization, personal flexibility, corporate sense, and balance. The scale has 47 items on a 5-point Likert-type scale, and by tested on employees of industrial & service sectors and to their supervisors.

occupational expertise: This included items that measured a prerequisite for positive career outcomes of workers. It has 15 items. Such as “ I consider myself competent to engage

in in-depth, specialist discussions in my job domain”, “How much confidence do you have in your capacities within your area of expertise?”.

anticipation and optimization: it has 8 items, such as “ During the past year, I associated myself with the latest developments in my job domain”, “ I take responsibility for maintaining my labor market value.”

personal flexibility: It is not connected to the adaptability at the content level of a job. In addition to creatively adapting, employees must also undergo passive adjustments to changes happening in their work and the labor market environment that were not of their choosing. It has 8 items, such as “ How much variation is there in the range of duties you aim to achieve in your work?”, “How quickly do you generally anticipate and take advantage of changes in your working environment?”.

corporate sense: it not only refers to be as members of an integrated team, identify with corporate goals, and accept collective responsibility for the decision-making process (Chapman& Martin, 1995), and extends the organizational citizenship behavior concept (Podsakoff, MacKenzie, Paine, & Bachrach, 2000) to participation and performance in different workgroups, such as the department, the organization, the occupational community, and other networks. It has 7 items, such as “In my work, I take the initiative in sharing responsibilities with colleagues.”, “ I am involved in achieving my organization’s/department’s mission.”.

Balance: This included 9 items that measured compromise between opposing employers’ interests as well as one’s own opposing work, career, and private interests (employee) and between employers’ and employees’ interests. Such as “My work and private life are evenly balanced ”, “I achieve a balance in alternating between reaching my own work goals and supporting my colleagues”.

The Perceived Employability Scale(Pes)

The PES comprises 15 items on a 5-point Likert-type scale and is crafted to assess different facets of an individual's career self-efficacy, encompassing four dimensions: Interpersonal efficacy, Information gathering and Barrier Removal efficacy, Persistence, and Goal-setting efficacy. Its effectiveness was evaluated through testing on a substantial cohort (N = 2,600) of low-income women with diverse cultural, ethnic, and racial backgrounds residing in Hawaii.

Interpersonal efficacy (3items): This included items that measured a person's belief in one's ability to "Get along with co-workers" , "Get along with my supervisor"; and "Complete a training program if necessary to obtain a job" .

Information gathering and Barrier Removal efficacy (4items):This included items designed to measure an individual's belief in one's ability to "Find information about job opportunities" , "Learn new information about a particular job/career", "Remove potential barriers to getting a career" , and "Interview for a job" .

Persistence (5items): This included those that measured one's belief in their ability to "Obtain a job", "Earn enough money to support myself/family", "Find a job/career that fits my needs, abilities, interests" . "Keep a job for at least a year" , and "Show up for work every day" . and all of these items related to various aspects of an individual's determination to secure and keep a job or career.

Goal-setting efficacy (2items): it consisted of items that measured the participants' belief about their ability to "Plan ahead one year for my future" and "Plan ahead five years for the future".

The Self-Perceived Employability Scale(Spes)

The Self-perceived Employability Scale (Rothwell and Arnold, 2007; Rothwell et al., 2008, 2009) endeavors to encapsulate the personalized meaning of employability within the framework of individuals' experiences, aspirations, and their perception of their competence to compete in the external labor market. This scale comes in three versions tailored for professionals, university students, and post-graduate students. It was composed of 16 items on a 5-point Likert-type scale. And it has four components: self-belief, my university, my field of study, the external labour market.

self-belief: This included those that measured student's self-belief of skills and abilities, contextualised in academic performance and employment terms.

my university: it refers to student's perception of their university's reputation (brand strength), contextualised in employment terms (Bainbridge, 2000).

my field of study: The need for individuals with degrees in specific subjects fluctuates, influenced not only by market conditions but also by perceived status disparities among vocational areas.

the external labour market: It included to self-perception of the state of and their awareness of opportunities in the external labour market.

Employability Appraisal Scale (EAS)

The Employability Appraisal Scale (EAS), which integrates all the elements proposed by the Bioecological Model, assesses personal and social dimensions of employability. It was developed and tested by Llinares-Insa, L. I., González-Navarro, P., Zacarés-González, J. J., & Córdoba-Iñesta, A. I. (2018) using data from 489 people from a very heterogeneous sample (precarious workers, professionals, prisoners, long-term unemployed, socially excluded, etc.). The Spanish final version of the scale, consisting of 35 items, was assessed using a 5-point Likert scale. It incorporates seven classification variables (age, gender, studies, complementary studies, nationality, illness/disability/dependence, and legal processes) along with seven variables concentrating on social elements (civil status, number of children, people living at home, dependent individuals at home, time flexibility and availability, and work experience). This scale stands as a valid and reliable tool for employability measurement, offering criteria for interpreting scores.

Scae	Authors	Employability dimensions	Characteristics
Competence-based and multi-dimensional measure of employability scale	van der Heijde & van der Heijden(2006).	-Occupational expertise -Anticipation and optimization -Personal flexibility -Corporate sense -Balance	47 items on a 5-point Likert-type scale. Tested on employees of industrial & service sectors and to their supervisors

The dispositional employability scale	Fugate, M., & Kinicki, A. J, (2008)	-openness to changes at work -work and career proactivity -career motivation -work and career resilience -work identity	25 items on a 5-point Likert-type scale Tested on employees
the Self-perceived Employability Scale(SPES)	Professionals: Rothwell & Arnold(2007); University students: Rothwell,Herbert & Rothwell (2008); Post-graduate students: Rothwell,Jewel & Hardie(2009)	-self-belief -my university -my field of study -external labour market -Self-perceived internal employability -Self-perceived external employability	Scales composed of 11 and 16 items on a 5-point Likert-type scale. Three versions: professionals, university students post-graduate students.
The perceived employability Scale(PES)	Daniels, J., D'andrea, M., & Gaughen, K. J. (1998)	-Interpersonal efficacy(3items); -Information gathering and Barrier Removal efficacy (4items); -Persistence(5items); -Goal-setting efficacy(2items)	14 items on a 5-point Linkert-type scale. Tested on adults with different cultural, ethnic and racial backgrounds.
Employability Appraisal Scale (EAS)	Llinares-Insa, L. I., González-Navarro, P., Zacarés-González, J. J., & Córdoba-Iñesta, A. I. (2018)	personal and social dimensions	35-item version of the scale was measured using a 5-point Likert scale Tested on 489 people from a very heterogeneous sample (precarious workers, professionals, prisoners, long-term unemployed, etc.)

Figure 1.2 Assessment scales of college student's Employability.

Factors affecting college students' employability

What factors affect the employability of college students? It has always been a focus question that researchers are trying to answer. Many influential representatives (such as Holland, Lorraine, Fugate etc.) have theoretically elaborated on this issue. Judging from the

variables selected by these researchers, they can be divided into personal factor and contextual factor.

Personal Factor

Personal factors refer to the perceptions that individuals have regarding themselves, that is, on their internal attributes such as personal traits abilities, adaptation characteristics and so on, as well as on their personal environment, to the extent they favour them to find an appropriate job (Savickas, 2005; McQuaid and Lindsay, 2005; Rothwell et al., 2008).

Professional Ability

The professional ability refers to the two most highlighted attributes: "what the college student know" and "what they can do". Sunil Jayantha Nawaratne et al. (2016) proposed professional ability, which include four areas, as K-SAM: K-Knowledge (theoretical and practical), S-Skills (communication, teamwork, leadership, problemsolving, etc.), A-Attitudes, Values, Professionalism and Vision for Life and M-Mindset and Paradigms (how do they perceive the world or lenses through which they view the world, which is directly linked with lifelong learning). They are the foundation that affects employability, and they are also the primary factor that affects the success of employment.

Human Capital

In the study of employability structure mode such as the Psycho-social Construct model, human capital is considered as a personal factor since it refers to a set of productive capacities-skills, knowledge and attitude -that an individual must acquire to perform well in a given occupation (Peeters et al., 2017). A study of construction workers by Liu et al. (2014) found that the structure (e.g., level of education, work experience) and quality (e.g., level of skills) of human capital are positively related to employability and future job performance. That is to say that one's employability is greatly influenced by human capital (Fugate, 2004).

Career Identity

Beside human capital, career identity is also considered as a personal factor, which has a significant impact on college students' employability (Liang & Gong, 2018), since it can be considered as an individual's choice to answer the question "Who am I" with "the career that he wants to pursue in the future" or "the career he is currently fighting for" (Holland et al., 1980; Fugate et al., 2004). It is a dynamic, continuous, and multidimensional process that changes with the individual's experience, knowledge, skills, and attitudes (Cooper and Olson, 1996; Coldron and Smith, 1999; Gault et al., 2010).

Personal Adaptability

According to Kehoe et al. (2000), adaptability is a personal trait in which people deal with ambiguity, deal with uncertainty or stress, and the ability to work outside or temporary in non-traditional organizational boundaries. More in-depth research, Fugate et al. (2004) argue that when a person has high employability, these aspects of traits like personal adaptability combine cognitively and emotionally to have a significant impact on the identification and perception of job opportunities. In some study, self-efficacy as a mediate influencing factor to between adaptability and employability (Aydin, 2022), so people with high self-efficacy are generally considered to perform better in personal adaptation (Wang Yingbo, 2013). In view of the fact that people with high self-efficacy can make full use of

various resources and adopt more effective coping methods to solve the problems they face (Huang Jie, Zhang Huiyong, Shang Shijie, 2014), That is to say Self-efficacy is closely related to personal adaptability. Thus We do not single out self-efficacy as a personal factor, and adaptability, which include self-efficacy, not only enables people to Maintaining productivity in a changing work field, and personal adaptability also plays a crucial role in an individual's career success

Contextual factor

Contextual factor refers to Background and environmental influences, which are or beyond societal or other interpersonal factors that affect an individual such as parental attachment, parental support, socioeconomic status and so on (Novakovic et al., 2013). In other words, these factors encompass not only the individual and familial circumstances of a university student that might impact their perceived employability (Knight and Yorke, 2002; McQuaid and Lindsay, 2005) but also extend to considerations of the external labor market or environment.

Social Capital

Social capital, which exists as a resource (Zheng Xiaotao et al., 2006), refers to the network of social relations to enable individuals to better meet the needs of their own survival and development (Zhao Yandong & Luo Jiade, 2005). So social capital is considered as Background and environmental influences. Previous studies have shown the significance of social capital in influencing adaptive capacity (Fugate et al., 2004). Networks of social capital serve as a valuable resource for individual adaptation (Pelling, 2005), aiding students in achieving improved employment outcomes and advancing their careers in the competitive labor market.

The External Labor Market or Environment

To a certain extent, whether the external employment environment is severe or not has the same impact on individual employment. So in here, the external labor market or environment not only refers to student's perception of their university's reputation (brand strength), but also include to self-perception of the state of and their awareness of opportunities in the external labour market. such as The demand for individuals with degrees in particular subjects varies, not just according to market conditions but also to perceived status differences between vocational areas. For instance, the reputation of a university stands as a substantial asset for college students in their job search, and the demand for professionals in the career of interest holds significance in the external labor market. Rothwell, Herbert, and Rothwell (2008) acknowledged the external labor market as a crucial and indispensable dimension in the self-perceived employability of college students.

Future Research Directions

Clearly Define the Connotation and Denotation of College Students' Employability

Whether foreign or domestic, researchers have not yet formed a unified view on the components of college students' employability. Is employability concerned with abilities, skills, or something else? Is it for a specific occupational situation or a different occupational situation? We believe that studying the employability of college students is not the same as

studying the competency characteristics of a certain position. Considering the College students' employability puts emphasis on both characteristics (personality characteristics etc) and employment result, so using a generic "skills" assessment questionnaire or to measure their employability is biased. In order to solve this problem, we must clarify the connotation and denotation of college students' employability.

Form a consensus on the dimensions of college students' employability

At present, there are many literature studies on the dimensions of employability which produced many excellent results. The benefit is that it helps people gain a deeper understanding of employability. The disadvantage is that this also shows that researchers have large differences, or even confusion, in their understanding of the dimensions of employability. If this problem is still not solved well, it will result in a lack of comparability of research results and is not conducive to the effective accumulation of human knowledge. From the literature review, it can be found that when researchers construct the dimensions of employability, they start from the influencing factors of employability. Because there are too many factors that affect employability and they are too complex, it is reasonable that there is no unified understanding of the dimensions of employability. Therefore, how to construct the dimensional composition of employability more convincingly is a question that future researchers need to think about further. The author believes that when conducting research on the dimension of employability, the degree of uncertainty about the future career environment must be considered. As mentioned earlier, the increased instability of the future professional world has become a reality. College students need to rely more on basic personal qualities, human and social capital accumulated over a long period of education, rather than just one or a few special skills to cope with rapid changes in the environment.

In-Depth Exploration of the Formation Mechanism of College Students' Employability

The factors that influence employability are very broad. In terms of external factors, there are both family and peer factors as well as social factors. In terms of individual factors, there are both cognitive and motivational factors, as well as personality factors. At present, when researchers discuss the formation of employability, they often only try to prove the correlation between influencing factors and employability, without further exploring the formation mechanism of employability. For example, how do external situational factors influence individual factors and thus employability? For another example, how do internal factors interact with each other to affect employability? Research on the formation mechanism of employability can, on the one hand, help us deeply understand the mechanism of employability, thereby providing guidance and assistance for career counseling practice. On the other hand, it can help form a theoretical model of employability and form regular understandings. In recent years, although some scholars have realized this problem (Lent, Brown, & Hackett, 2002), similar research is still very scarce.

Strengthen Customized Intervention Research To Improve College Students' Employability

Customized intervention can better fit the client's specific needs and problems and optimize the intervention effect (Nauta, 2011). Although researchers are aware of the importance and necessity of customized intervention, there is currently a lack of empirical research in this area at home and abroad. Future research should first systematically classify the paths of college students' employability, and then evaluate the effects of specific career intervention forms (such as self-service, assessment feedback, group counseling, individual

consultation, etc.) on the employability of different paths, so as to establish employment Ability-customized intervention models and systems.

References

- Lent, R. W., Brown, S. D., & Hackett, G. (2002). Social cognitive career theory. *Career choice and development*, 4(1), 255-311.
- 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.
- Neroorkar, S. (2022). A systematic review of measures of employability. *Education+ Training*, (ahead-of-print).
- Gürbüz, S., Joosen, M. C., Kooij, D. T., Bakker, A. B., Van Der Klink, J. J., & Brouwers, E. P. (2022). Measuring sustainable employability: psychometric properties of the capability set for work questionnaire. *BMC Public Health*, 22(1), 1-10.
- Healy, M., Hammer, S., & McIlveen, P. (2022). Mapping graduate employability and career development in higher education research: A citation network analysis. *Studies in Higher Education*, 47(4), 799-811.
- Byrne, C. (2022). What determines perceived graduate employability? Exploring the effects of personal characteristics, academic achievements and graduate skills in a survey experiment. *Studies in Higher Education*, 47(1), 159-176.
- Healy, M., Brown, J. L., & Ho, C. (2022). Graduate employability as a professional proto-jurisdiction in higher education. *Higher Education*, 83(5), 1125-1142.
- Ntale, P. D. (2022). Graduate Employability in an African Country: A Study of the Potential Roles of Psychological Capital, Social Capital, and Career Identity. In *Promoting Entrepreneurship to Reduce Graduate Unemployment* (pp. 255-283). IGI Global.
- Sullivan, S. E., & Baruch, Y. (2009). Advances in career theory and research: A critical review and agenda for future exploration. *Journal of management*, 35(6), 1542-1571.
- Pesonen, H. V., Tuononen, T., Fabri, M., & Lahdelma, M. (2022). Autistic graduates: graduate capital and employability. *Journal of Education and Work*, 1-16.
- Wang Yingbo. (2013). Cultivation of vocational skills and employability in CNC practice. *China Staff Education* (11X), 1.
- Yuan Zheng. (2022). Theoretical Explanation and Empirical Research on Vocational Education Adapting to the Needs of Economic and Social Development. *Education and Occupation* (19), 6.
- Healy, M., Brown, J. L., & Ho, C. (2022). Graduate employability as a professional proto-jurisdiction in higher education. *Higher Education*, 83(5), 1125-1142.
- Van der Heijde, C.M., & Van der Heijden, B.I.J.M. (2006). A competence-based and multidimensional operationalization and measurement of employability. *Human Resource Management*, 45(3), 449-476.
- Vanhercke D., De Cuyper N., Peeters E., & De Witte H. (2014). Defining perceived employability: A psychological approach. *Personnel Review*, 43(4), 592-605.
- Haiyan Dong.(2021)Difficulties and Solutions of Vocational Education Policy Development in China-Analysis of Basic Elements Based on Social Policy. *Advances in Education*,11(6), 2365-2370
- Yuan Zheng. (2022). Theoretical Explanation and Empirical Research on Vocational Education Adapting to the Needs of Economic and Social Development. *Education and Occupation* (19), 6.
- Zacher H., & Griffin B. (2015). Older workers' age as a moderator of the relationship between career adaptability and job satisfaction. *Work, Aging and Retirement*, 1(2), 227-236.

- Zhang, G., Zhen, R., Ou, L., Yu, X.N., & Zhou, Y. (2018). The impact of education on the employability of university graduates: The role of educational quality and educational signals. *Frontiers in Psychology*, 9, 2370.
- Zhang, L., & Gao, J. (2016). The mediating role of individual adaptability in the relationship between Big Five personality and career growth among Chinese employees. *Personality and Individual Differences*, 95, 74-79.
- Zhang, M., Law, K.S., & Lin, B. (2016). You think you are big fish in a small pond? Perceived overqualification, goal orientations, and proactivity at work. *Journal of Organizational Behavior*, 37(1), 61-84.
- Zhang, Q., & Gao, Y. (2016). Career adaptability and job performance: The mediating roles of person-job fit and proactive behavior. *Journal of Vocational Behavior*, 95-96, 1-10.
- Zhang, Y., Guan, Y., Zhou, M., Zhang, H., & Zhang, Q. (2019). Career adaptability and perceived overqualification: The moderating roles of person-job fit and core self-evaluations. *Journal of Vocational Behavior*, 112, 158-168.
- Zhao Ming. (2021). Research on the Impact of Social Capital on the Employment of Poor College Students--Analysis Based on the Survey Results of 8 Colleges and Universities in Jiangsu Province. *Jiangsu Higher Education* (12), 5.
- Zhao Dong. Preliminary compilation of self-assessment scale for college students' employability. (Doctoral dissertation, Sichuan Normal University).
- Zhang, X., & Zou, X. (2020). University Students' Employability Skills Model based on Chinese employer perspective. *Journal of Human Resource and Sustainability Studies*, 01(03), 29-33. <https://doi.org/10.4236/jhrss.2013.13005>
- Zhao, X., & Cox, A. (2021). Chinese Students' Study in the UK and Employability: The Views of Chinese Employers, Students and Alumni, and UK Teachers. <https://doi.org/10.31235/osf.io/t9pyz>
- Zhao, W. X., Peng, M. Y. P., & Liu, F. (2021). Cross-cultural differences in adopting social cognitive career theory at student employability in PLS-SEM: the mediating roles of self-efficacy and deep approach to learning. *Frontiers in psychology*, 979.
- Zhao Hehua. (2022). Transcending and Adapting: A Strategy to Enhance the Adaptability of Higher Vocational Education in the New Era. *Jiangsu Higher Vocational Education*, 22(3), 12.
- Llinares-Insa, L. I., González-Navarro, P., Zacarés-González, J. J., & Córdoba-Iñesta, A. I. (2018). Employability Appraisal Scale (EAS): development and validation in a Spanish sample. *Frontiers in psychology*, 9, 1437.
- Clarke, M. (2018). Rethinking graduate employability: The role of capital, individual attributes and context. *Studies in higher education*, 43(11), 1923-1937.