Influence of Career Preparation of Vocational College Graduates' Career Decision-Making: Mediating Role of Self-Efficacy

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ABSTRACT

In China, students in higher vocational colleges typically pursue vocational education as an alternative to academic pathways, often due to comparatively lower academic performance. This educational track leads to distinct patterns of career preparation and decision-making that differ from those in traditional academic institutions. This quantitative study employed a correlational research design to examine the relationship between career preparation and career decision-making among Chinese vocational college graduates. A total of 403 graduates participated in the survey. The findings indicate that career preparation positively influences career decision-making. Moreover, self-efficacy plays a mediating role in this relationship. Although the study is limited by its cross-sectional design, it provides important insights into how career preparation serves as a critical personal resource in facilitating the school-to-work transition within the evolving global employment landscape.

Keywords: career preparation, career decision-making, self-efficacy, higher vocation college graduates

INTRODUCTION

Career decision-making is a critical process for both individuals and nations, as a skilled and efficiently allocated workforce forms the foundation of economic development (Shatakishvili, 2021). In the 21st century, the rapid advancement of technologies such as generative artificial intelligence and virtual reality has profoundly reshaped societal structures, employment categories, information accessibility, and career trajectories (Lim, 2023). These technological disruptions have increased competition and complexity in the job market, making the transition to employment more challenging. Additionally, global economic instability has further complicated rational decision-making for college graduates (Yu et al., 2021).

As shown in Figure 1, China's highly competitive higher education system is structured around the National College Entrance Examination (Gaokao), which determines access to university education. Students who achieve higher scores are typically admitted to academically prestigious institutions, while those with lower scores are more likely to enter higher vocational colleges. This stratified admissions system often results in students enrolling in vocational programs not out of personal preference, but due to limited academic options (Liu et al., 2020).

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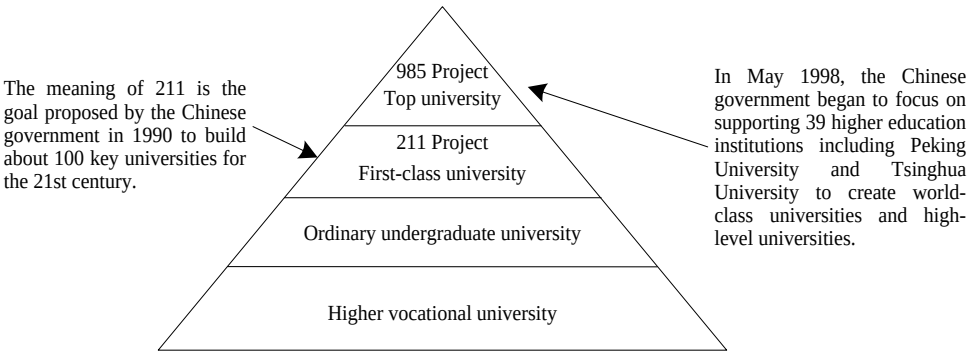

Fig 1. Levels of Higher Education Institutions in China. Source: Author of this study

The decision of many students to pursue vocational education is often driven by pragmatic considerations. Given their comparatively limited academic credentials, vocational students tend to view the acquisition of technical skills as a practical pathway to employ ability and economic self-sufficiency (Wang & Chen, 2021). However, prolonged exposure to negative academic evaluations may erode motivation, which often manifests as disengagement in classroom learning, overuse of the internet, and a general sense of pessimism. These behaviors signal a weakening of career preparation motivation and a decline in self-efficacy.

Moreover, the persistent social stigma surrounding vocational education in China reinforces perceptions of these programs as inferior to academic university pathways. This mismatch between students' personal aspirations and the perceived value of their educational institutions exacerbates feelings of disillusionment. Consequently, many students ultimately accept lower-skilled and less stable jobs, which offer limited prospects for long-term career development and are more vulnerable to economic fluctuations. Addressing these challenges is vital for developing targeted interventions that improve students' psychological resilience, academic engagement, and long-term career outcomes within the context of vocational education.

LITERATURE REVIEW

Career Decision-making

Career decision-making is shaped by a complex interaction between intrinsic (individual) and extrinsic (environmental) factors (Nyamwange, 2016). Intrinsic factors include personality traits, personal interests, self-concept, attitudes, culture identity.

In contrast, extrinsic factors involve social networks, role models, financial resources, globalization, ethnic background, educational experiences, subject selection, and job characteristics (Mokwelu et al., 2023). Among these factors, environmental influences, especially parental involvement, play a critical role in shaping students' educational trajectories, career pathways, and social development (Betz et al., 2020; Heddy and Sinatra, 2017).

Lent (2020) emphasizes that career decision-making is not a singular event but a continuous and dynamic process. This process is influenced by the development of self-efficacy, outcome expectations, interests, and domain-specific skills over time. While individuals may make initial career choices, unexpected life events, evolving goals, and changing circumstances often necessitate revisions. New opportunities may arise, challenges may surface, and interests may shift during one's working life. As such, career decision-making should be understood as a lifelong, adaptive process with multiple influencing factors and decision points.

Career Preparation

Career preparation is a multifaceted construct that has been examined from diverse perspectives. According to the National Association of Colleges and Employers (2015), career preparation serves as the foundation for demonstrating essential workplace competencies and equipping college graduates for career success and lifelong employ ability.

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Recent studies recognize the complexity of career preparation and highlight the interconnection among its key components (Detgen et al., 2021). Conley (2010) emphasizes the critical knowledge and skills required for success in post-secondary education, training programs, and entry-level employment. This perspective aligns with a comprehensive view of career preparation, which includes: (a) the integration of education and career planning, (b) the application of academic, technical, and vocational knowledge, and (c) the development of soft skills essential for both academic and professional achievement (Warren et al., 2017).

Bandura's (1986) Social Cognitive Career Theory (SCCT) offers additional insight into career preparation by suggesting that individuals with insufficient training or negative prior experiences tend to show reduced motivation and lower outcome expectations. In the context of career guidance, graduates who lack proper career counseling or relevant training may experience limited motivation and poorer career outcomes. Supporting this, Drymiotou et al. (2021) argue that effective learning experiences, including problem-solving activities, exposure to real-world work environments, and interaction with industry professionals, can significantly enhance students' preparedness and motivation for career development, particularly in STEM fields.

C. Self-efficacy

Extensive research has established a strong link between high levels of self-efficacy and various positive outcomes, including academic achievement, career success, and the ability to cope with challenges (Schunk and Pajares, 2001; Zimmerman et al., 2002). Building upon Bandura's foundational work, the Social Cognitive Career Theory (SCCT) identifies four key sources that contribute to the development of self-efficacy.

The first source is mastery experiences, which refer to learning that occurs when individuals successfully complete tasks and gain confidence from these accomplishments. The second source is vicarious experiences, in which observing others successfully perform tasks enhances individuals' beliefs in their own capabilities. The third source is social persuasion, which involves verbal encouragement or feedback that fosters confidence in one's potential to succeed. The fourth source is physiological and emotional states, including mental well-being and stress levels, which influence how individuals evaluate their abilities in specific contexts (Wood and Bandura, 1989).

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Individuals with high self-efficacy are generally more confident in navigating career-related decisions, overcoming barriers, and achieving long-term professional goals (Lent et al., 2001; Fetherston et al., 2017). Their enhanced sense of control and optimism enables them to persist in the face of setbacks and to explore diverse opportunities, thereby supporting more informed and effective career development.

Based on the above literature review and analysis, the researchers reject the null hypothesis and propose the following alternative hypothesis:

H1: Career preparation have a positive and significant influence on self-efficacy of graduates from higher vocational colleges in Anhui Province, China.

H2: Self-efficacy have a positive and significant effect on career decision-making of graduates from higher vocational colleges in Anhui Province, China.

H3: Self-efficacy mediates the relationship between career preparation and career decision-making.

In more depth, based on SCCT theory, the conceptual framework of this study is shown in figure 2.

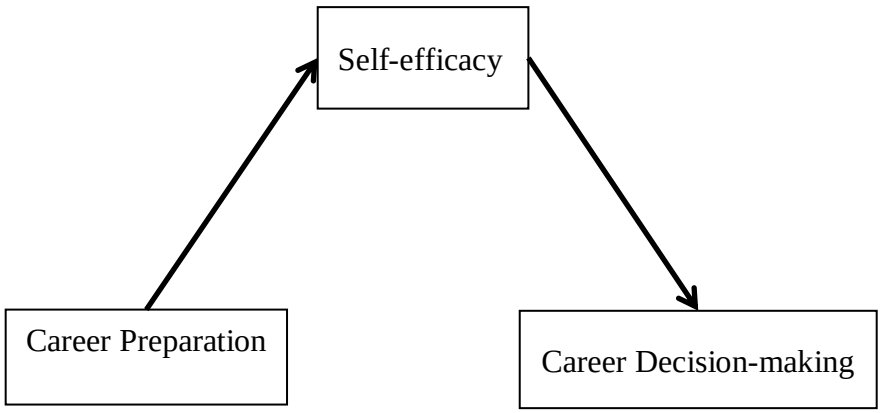

Fig.2 The conceptual framework of this study

MATERAILS AND METHODS

A. Procedure and participants

Following approval from the SEGi University Research Ethics Committee, data collection was conducted from March 11 to April 11, 2024. The target population consisted of graduates from higher vocational colleges in Anhui Province who completed their studies between 2019 and 2023. The Chinese version of the questionnaire was uploaded to the Wenjuanxing platform, which generated a link for distribution. Researchers then used the WeChat application to randomly distribute the questionnaire link to selected graduates from vocational colleges in Anhui. Upon consenting to participate, the respondents completed the questionnaire online. The researchers subsequently collected the completed responses through the Wenjuanxing platform.

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B. Measures

Based on the literature review, the study utilized standardized scales to measure three main constructs: career decision-making, career preparation, and self-efficacy.

Career decision-making was assessed using 16 items adapted from Siddiky and Akter (2021) and Avargil, Kohen, and Dori (2021). A sample item includes, "I chose this career because of my educational attainments." All items were rated on a 10-point Likert scale ranging from 1 (completely disagree) to 10 (completely agree).

Career preparation was measured using 12 items adapted from Venant, Arego, and Ngussa (2021), and Lee, Jung, Baek, and Lee (2022). A representative item is, "I am working hard in academics as a preparation for my career." These items also used a 10-point Likert scale.

Self-efficacy was measured using 18 items adapted from Sukmak (2001) and Siebert et al. (2022). A sample statement is, "It is easy for me to stick to my aims and accomplish my goals." These items were similarly rated on a 10-point Likert scale from 1 to 10.

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C.Pre-testing

Prior to the pilot study, the questionnaire underwent preliminary testing with a small group of participants, as recommended by Perneger et al. (2015), who suggest a sample size of 30 to 50 respondents for such evaluations. Given that the questionnaire was distributed in Chinese, the pretest was also conducted using the Chinese version. Two types of pretests were implemented: participatory testing and undeclared testing. The participants were professional teachers from vocational colleges in Wuhu City, Anhui Province, who had previously taught the researchers' classes. In early February 2023, the researchers distributed the questionnaire online for pretesting purposes. The results from both tests indicated that all 46 items were comprehensible and suitable for use in this study. The respondents demonstrated a clear understanding of the terminology, definitions, and technical expressions used in the instrument.

D. Pilot Study

To verify the dimensional structure of the measurement instruments, exploratory factor analysis (EFA) was employed. This technique, often used in scale development, helps assess construct validity (Latif, 2018). EFA was conducted using principal component analysis with varimax rotation in IBM SPSS version 26.

A total of 170 pilot questionnaires were distributed, and 167 usable responses were obtained after excluding three participants who declined to participate. Before proceeding with the main analysis, these responses were screened for missing data and subjected to reliability and factor analyses.

For the career decision-making scale, two items with factor loadings below 0.6 were removed. The remaining items all exceeded this threshold, demonstrating acceptable loadings. The internal consistency was confirmed with a Cronbach's alpha of 0.862 and an average variance extracted (AVE) of 0.878. EFA suggested a two-factor structure: internal factors influencing career decision-making (ICDM, 8 items) and external factors influencing career decision-making (ECDM, 6 items).

For the career preparation scale, three items were excluded due to factor loadings below 0.6. The remaining items exhibited satisfactory loadings, with a Cronbach's alpha of 0.847 and an AVE of 0.766. The final construct consisted of one component with 9 items.

For the self-efficacy scale, two items were deleted due to inadequate factor loadings. The remaining 16 items all had factor loadings above 0.6. Cronbach's alpha was 0.804, and AVE was 0.836. EFA indicated a two-factor solution: general self-efficacy (GSE, 8 items) and occupational self-efficacy (OSE, 8 items).

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RESULTS

A.preliminary analyses

A total of 500 responses were initially collected through the field questionnaire survey. After eliminating ineligible responses and outliers, the final sample consisted of 403 graduates from higher vocational colleges in Anhui Province, China.

A frequency analysis revealed the demographic distribution of respondents: 53.6% (n = 216) were from northern Anhui, 29.0% (n = 117) were from Hefei (the provincial capital), and 17.4% (n = 70) were from southern Anhui. Regarding gender, 68.7% (n = 277) were male and 31.3% (n = 126) were female.

Work experience varied across participants: 55.1% (n = 222) had less than one year of experience, 30.8% (n = 124) had one to two years, 10.4% (n = 42) had two to three years, and 3.7% (n = 15) had more than three years.

Analysis of participants' current job relevance to their academic major indicated that 37.7% (n = 152) reported complete alignment, 39.0% (n = 157) reported partial relevance, and 23.3% (n = 94) stated that their current jobs were entirely unrelated to their majors. Combined, 76.7% of respondents reported at least some degree of consistency between their academic training and current employment, underscoring the influence of professional studies, as a component of career preparation, on graduates' employment outcomes.

In terms of academic specialization, 44.2% (n = 178) majored in Science and Engineering, 27.3% (n = 110) in Culture and Art, 19.6% (n = 79) in Economics and Management, and the remaining 8.9% (n = 36) in other disciplines.

Table 1 presents the detailed demographic profile of the respondents.

Profile	FrequencyN=	Percentage %	Cumulative%
1.Gender			
① Male	277	68.7	68.7
② Female	126	31.3	100
2.Region of Graduated college			
①Northern region of Anhui Province	216	53.6	53.6
② Hefei City, the capital of Anhui Province	117	29.0	82.6
③Southern region of Anhui Province	70	17.4	100
3.Years of Working			
① 0-1 years	222	55.1	55.1
② 1-2 years	124	30.8	85.9
③ 2-3 years	42	10.4	96.3
④More than three years	15	3.7	100
4.Is your current career			

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related to your university major?			
①Completely consistent	152	37.7	37.7
②Related occupations	157	39.0	76.7
③Completely irrelevant	94	23.3	100
5.Major categories studied in your college			
①Science and engineering	178	44.2	44.2
②Culture and Art	110	27.3	71.5
③Economic and Management	79	19.6	91.1

TABLE I PROFILE OF RESPONDENTS

Profile of respondents

Descriptive statistics for the main constructs are reported in Table 2. The standard deviations for all variables were less than 2.0, indicating that the data were closely clustered around the mean and followed a normal distribution. Internal consistency reliability was confirmed, as Cronbach's alpha and composite reliability (CR) values for all constructs exceeded the recommended threshold of 0.70 (Hair et al., 2017). Convergent validity was established with AVE values above 0.50. Discriminant validity was supported by Heterotrait–Monotrait (HTMT) ratios below 0.85, satisfying the criteria suggested by Kock and Lynn (2012).

TABLE II MEANS, STANDARD DEVIATIONS, CRONBACH'S ALPHA, AVERAGE VARIANCE EXTRACTED (AVE) AND HETEROTRAIT-MONOTRAIT (HTMT).

	M	SD	Cronbach's alpha	CR (rho_a)	AVE	CDM	CP	SE
CDM	6.120	1.200	0.933	0.933	0.535			
CP	6.314	1.403	0.932	0.932	0.647	0.670		
SE	6.378	1.158	0.938	0.938	0.518	0.776	0.711	

B. Testing the Hypotheses

SmartPLS 4.0 was used to conduct path analysis after confirming that the assumption of multicollinearity was met. The analysis examined both direct and mediating effects among the constructs.

Direct effect between career preparation, self-efficacy, and career decision-making (H1 & H2)

As shown in Table 3, career preparation had a significant positive effect on career decision-making ($\beta = 0.628$, $p = 0.001$). Similarly, self-efficacy significantly influenced career decision-making ($\beta = 0.670$, $p = 0.001$). These results indicate that a one-unit increase in career preparation is associated with a 0.662-unit increase in

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self-efficacy, and a one-unit increase in self-efficacy corresponds to a 0.456-unit increase in career decision-making. The confidence intervals for both paths did not include zero, and all p-values were statistically significant. Thus, both H1 and H2 are supported.

TABLE III PATH COEFFICIENT BETWEEN VARIABLES

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	95% Confidence Interval of the Direct Effect
CP -> CDM	0.628	0.627	0.037	17.166	0.001	[0.551,0.693]
SE -> CDM	0.670	0.671	0.027	25.095	0.001	[0.617,0.720]

b.Mediation effect of self-efficacy between career preparation and career decision-making (H3)

As illustrated in Figure 3 and reported in Table 4, the results show that career preparation had a significant direct effect on self-efficacy (β = 0.662, p = 0.001), and self-efficacy, in turn, had a significant effect on career decision-making (β = 0.456, p = 0.001). Additionally, career preparation maintained a significant direct effect on career decision-making (β = 0.325, p = 0.001). These findings indicate that self-efficacy partially mediates the relationship between career preparation and career decision-making. The 95% confidence intervals for the mediation effect did not include zero, confirming statistical significance. Therefore, H3 is supported.

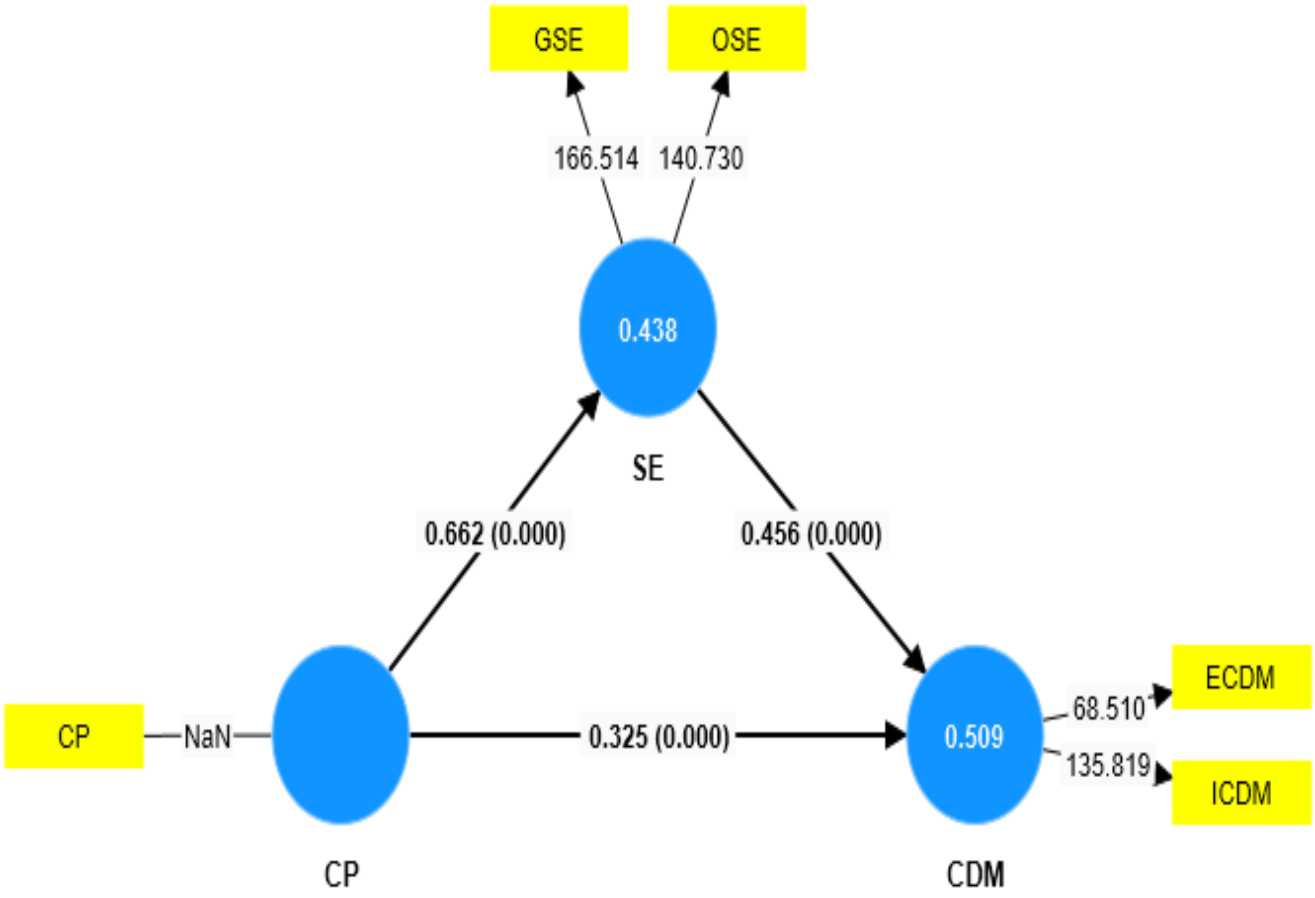

Fig. 3 A new structural model of the influence of exploratory career interests and Resource support on career decision-making

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TABLE IV PATH COEFFICIENT BETWEEN VARIABLES

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	95% Confidence Interval of the Direct Effect
CP -> CDM	0.325	0.323	0.057	5.716	0.001	[0.208,0.429]
CP -> SE	0.662	0.661	0.029	22.512	0.001	[0.603,0.716]
SE -> CDM	0.456	0.458	0.048	9.578	0.001	[0.364,0.550]

Note. N = 403. CDM: career decision-making, CP: career preparation, SE: self-efficacy.

DISSCUSION

Career decision-making, defined as a sequence of choices regarding one's professional experiences and responsibilities over time (Siddiky and Akter, 2021), remains a significant challenge for graduates transitioning into the workforce. This study demonstrated that career preparation among vocational college graduates in Anhui Province significantly influences their career decision-making. Moreover, self-efficacy was found to partially mediate this relationship, offering deeper insight into the psychological mechanisms behind career choice.

A. Career preparation positively influences graduates' career decision-making

The findings confirm that career preparation has a significant positive effect on graduates' career decision-making. This result aligns with previous research suggesting that well-prepared individuals are more likely to make informed and strategic career choices (Detgen et al., 2021; Warren et al., 2017). Graduates who actively engage in career planning, skill development, and academic preparation demonstrate greater clarity and confidence when navigating complex labor market decisions.

Furthermore, individuals with strong career preparation are more likely to align their job choices with personal interests, values, and long-term goals (Abe and Chikoko, 2020). As supported by Social Cognitive Career Theory (SCCT), adequate preparation enhances individuals' expectations of success and their ability to persist through obstacles (Lent et al., 2000). Conversely, limited preparation often leads to career indecision, poor self-assessment, and occupational dissatisfaction (Rami et al., 2021).

Internationally, similar patterns have been observed. For example, in South Africa, Murcia et al. (2020) found that career-oriented training significantly improved decision-making among secondary students. In the United States, Lindstrom et al. (2022) emphasized that college and career readiness programs foster higher engagement and goal-setting among underserved youth. These global findings support the generalizability of this study's results beyond China.

B. Self-efficacy positively influences graduates' career decision-making

The results also revealed that self-efficacy significantly predicts career decision-making, reinforcing the central role of self-belief in navigating career transitions. Graduates with high self-efficacy are more confident in evaluating alternatives, pursuing ambitious goals, and adapting to unforeseen challenges (Fetherston et al., 2017; Lent et al., 2001). This aligns with Bandura's framework, which identifies self-efficacy as a key cognitive

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mechanism through which individuals regulate motivation and behavior.

This result is consistent with previous findings. For example, Luo et al. (2021) observed that low self-efficacy reduced students' willingness to explore STEM-related careers. In contrast, students who believed in their capabilities were more proactive in pursuing fields aligned with their interests. In Ghana, Abomah and Tagoe (2014) similarly found that self-efficacy played a more significant role than peer pressure in career decision-making among adolescents.

These results affirm the universal importance of self-efficacy in educational and career contexts and indicate that enhancing students' self-beliefs should be a central component of career development programs.

C. Self-efficacy mediates the relationship between career preparation and career decision-making

This study further confirms that self-efficacy partially mediates the relationship between career preparation and career decision-making. On the one hand, career preparation directly influences decision-making. On the other hand, it also indirectly enhances decision-making by fostering a stronger sense of self-efficacy.

These findings are consistent with SCCT, which suggests that experiences of mastery, exposure to role models, social support, and emotional readiness contribute to self-efficacy, which in turn shapes outcome expectations and behavioral intentions (Wood and Bandura, 1989; Lent et al., 2002). Thus, students who are well-prepared not only possess the practical tools needed for career success but also develop psychological confidence that enables them to act decisively.

Numerous empirical studies support this mediating pathway. Jemini-Gashi et al. (2019) demonstrated that self-efficacy mediated the relationship between career readiness and decision-making among Kosovo adolescents. Similarly, Hanna and Rounds (2020) found that career workshops promoting self-efficacy led to more concrete career goal-setting among American youth.

In the Chinese context, these findings highlight the importance of addressing not only skill acquisition but also psychological empowerment among vocational students, particularly those entering competitive or stigmatized labor sectors.

D. Practical Implications

The results of this study have several important implications for educational policymakers, vocational institutions, and career guidance practitioners.

First, vocational colleges should place greater emphasis on career preparation activities that integrate academic, technical, and career-specific knowledge. Initiatives such as industry-specific training programs, career planning workshops, and experiential learning can foster both skill acquisition and strategic thinking, which are essential for career decision-making.

Second, institutions should systematically cultivate students' self-efficacy. Career guidance services should incorporate methods such as mastery-based assignments, exposure to successful alumni, and peer mentoring. These interventions have the potential to improve students' beliefs in their abilities and reduce fear associated with job uncertainty.

Third, school-industry collaboration should be strengthened. By embedding real-world projects into the curriculum and involving professionals in instruction, vocational education can become more aligned with the demands of the labor market, enhancing both preparedness and confidence.

Finally, efforts must be made to eliminate the social stigma associated with vocational education. Through public campaigns and media representation, the value of technical careers and skilled labor should be emphasized to improve students' identity and motivation.

These implications align with findings from global contexts. For example, Sweden' s dual-training system and

Germany's vocational prestige campaigns offer valuable models for integrating identity, preparation, and self-efficacy in vocational settings (Karlsson and Noela, 2022).

Limitations

Despite its contributions, this study is subject to several limitations.

First, the study employed a cross-sectional design, which limits the ability to draw causal inferences. Future research should adopt longitudinal or experimental designs to track how changes in career preparation and self-efficacy influence decision-making over time.

Second, while the sample was representative of higher vocational college graduates in Anhui Province, regional and institutional differences across China may limit the generalizability of the findings. Comparative studies across provinces or between academic and vocational tracks would enrich the understanding of contextual influences.

Third, the study relied solely on self-reported data, which may be subject to social desirability bias. Incorporating qualitative interviews or third-party evaluations could provide a more comprehensive understanding of graduates' career-related behaviors and motivations.

Finally, although the current study focused on the mediating role of self-efficacy, other important psychological variables, such as outcome expectations, resilience, or goal orientation, may also influence career decision-making. These should be considered in future models to enhance theoretical precision.

CONCLUSION

This study examined the influence of career preparation on career decision-making among higher vocational college graduates in China and explored the mediating role of self-efficacy. The findings confirmed that career preparation significantly enhances graduates' ability to make informed career decisions, both directly and indirectly through the strengthening of self-efficacy.

These results offer theoretical support for the Social Cognitive Career Theory (SCCT), affirming the role of personal resources, such as skills and confidence, in shaping behavioral intentions. This study extends SCCT by empirically demonstrating that career preparation contributes to positive career outcomes through two distinct pathways: a direct effect and an indirect effect mediated by self-efficacy.

Practically, the study provides actionable insights for enhancing vocational education. It emphasizes the need to align curriculum with career development, to foster psychological readiness, and to reform perceptions about vocational pathways. These strategies are essential for ensuring that vocational college graduates are not only employable but also empowered to pursue sustainable, meaningful careers.

In conclusion, a combination of structured career preparation and psychological empowerment can facilitate a shift from passive job acceptance to proactive career planning among vocational graduates. Future research should further explore this dynamic process in more diverse and longitudinal contexts to support the evolving needs of students entering complex labor markets.

Declarations

Data availability statement

The authors do not have permission to share data

Funding

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Declarations of interests statement

The authors declare no conflict of interest.

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