



Analysis of Factors Influencing Career Adaptability of Application-Oriented Undergraduate Students with Variable Career Orientation

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Abstract

Background and Aim: This study aims to explore the influencing factors of the development status of application-oriented undergraduate students in terms of variable career orientation, career self-efficacy, and career adaptability. Through this study, we aim to guide college students to help them establish a positive career attitude in order to maintain resilience and confidence throughout their career development. At the same time, this study aims to enhance college students' awareness of the importance of career development and strengthen their understanding of individuals and their environment, to more effectively grasp the trajectory of their career development.

Materials and Methods: This study used the Variable Career Orientation Scale, Career Self-Efficacy Scale, and Career Adaptability Scale for investigation. A total of 1,022 students from four applied undergraduate institutions in Henan Province, China, participated in the survey. SPSS 27.0 statistical software was used for statistical analysis of the data, including independent sample t-test, ANOVA, Pearson correlation analysis, and regression analysis.

Results: Research has found that the variable career orientation of Chinese applied undergraduate students has a significant positive impact on their career adaptability; Chinese applied undergraduate students' career self-efficacy has a significant positive effect on career adaptation; Chinese applied undergraduate students' career self-efficacy mediates the relationship between variable career orientation and career adaptability. Career self-efficacy partially mediates the relationship between variable career orientation and career adaptability.

Conclusion: This study clarifies that Chinese applied undergraduate students' variable career orientation and career self-efficacy have a significant positive effect on their career adaptability, and career self-efficacy plays a mediating role in this process. Universities should cultivate students' active and adaptable career direction through courses, practices, and other means, carry out training to enhance their career self-efficacy, help students improve their career adaptability, and seize opportunities for career development.

Keywords: Application-oriented Undergraduate Students; Variable Career Orientation; Career Self-efficacy; Career Adaptability

Introduction

Application-oriented undergraduate students refer to those enrolled in programs emphasizing practical skills and industry relevance, distinct from traditional academic programs. The unstoppable wave of popularization of higher education has prompted a deep transformation of higher education to adapt to the rapid changes in social, political, economic, and cultural fields, while fully meeting the diverse expectations of the general public for education (Wu, 2003). In the current social context, it is urgent to reform the traditional elite higher education training concept and the single higher education structure, aiming to build a more diversified higher education development model. During this process, a significant and undeniable trend is that higher education should deepen its understanding of vocational preparatory education and vigorously promote the comprehensive development of applied higher education (Gaolin, 2006). Applied higher education is committed to honing students' practical operational abilities and professional skills, aiming to enable them to meet the actual needs of career development and the pace of social development. This educational model places great emphasis on the integration of theory and practice, encouraging students to actively engage in practical work environments for practice and exercise, thereby enhancing their employment competitiveness and career adaptability. Society is developing rapidly, and the demand in the job market is constantly changing. The development of applied higher education is becoming increasingly important, as it can help students better understand and apply the knowledge they have learned. Train practical operation ability and problem-solving skills, enhance one's professional competence and innovation ability. Through close connections with industry and society, applied higher



education can also provide students with practical career preparation, enabling them to better adapt to the actual needs of the job market and achieve career success faster. Drawing on Savickas' Career Adapt-Abilities Scale (CAAS, 2012), this study operationalizes career adaptability as four dimensions: concern, control, curiosity, and confidence. These align with SCCT's focus on self-efficacy and environmental interactions.

Career self-efficacy is a subjective factor that affects an individual's career adaptability and development. It refers to an individual's cognition of their ability to complete tasks or achieve career goals in a specific career field, as well as their confidence and belief in completing these tasks or achieving goals. However, this concept focuses on the self-awareness and self-drive of individuals in their career development, by deeply analyzing their abilities and stimulating internal motivation, establishing a firm belief in their abilities, and effectively promoting the smooth achievement of career goals (Jiang & Guo, 2003). Under the framework of Social Cognitive Career Theory, career self-efficacy has significant implications for individual career cognition and behavioral development and is considered one of the key elements in achieving career goals. Other scholars have also explored from different perspectives that individual self-efficacy profoundly influences their employment behavior in the process of career decision-making. It plays a crucial role by adjusting cognition, stimulating motivation, and regulating emotions (Creed et al., 2003). Individuals with strong adaptability have multiple self-efficacies in different fields of professional tasks and behaviors. They believe that they can perform well in various work environments and professional fields and can cope with different challenges. This composite self-efficacy motivates them to explore new career opportunities and cope with career changes with greater confidence (Creed et al., 2003). In addition, there are significant differences between genders in the field of career development, with women exhibiting better traits than men in terms of career maturity (Zhang et al., 2014). After in-depth exploration and research, it can be clearly recognized that the important criterion for evaluating an individual's career adaptability is career self-efficacy. But does career self-efficacy have a mediating effect on the variable career orientation and adaptability of Chinese applied undergraduate students? It is a problem that urgently needs to be studied. The research question raised in this article is: Does career self-efficacy partially mediate the relationship between variable career orientation and career adaptability among Chinese application-oriented undergraduates?

Objectives

On the basis of literature analysis, this article summarizes the gaps in current academic research on career adaptability, in order to enrich the progress of research on college students' career adaptability. Therefore, the main objectives of this study include:

1. To conduct a survey on four representative applied undergraduate institutions in Henan Province, China, to examine differences in demographic variables (gender, education level, and place of origin) about career orientation, career self-efficacy, and career adaptability.
2. To investigate the relationship between career orientation, career self-efficacy, and career adaptability.
3. To explore the mediating role of career self-efficacy in the relationship between career orientation and career adaptability among Chinese applied undergraduate students.

Literature review

According to Bandura's (1977, 1982) social interaction determinism, it partially reveals that at the level of self-efficacy, an individual's self-efficacy is a key behavioral factor that influences their behavior. In the process of career development, the self-efficacy generated by individuals will significantly affect their career adaptability behavior. This study suggests that the self-efficacy of college students directly affects their career adaptability during their academic journey. Recent studies (e.g., Hirschi, 2020; Zhao et al., 2023) highlight the role of self-efficacy in enhancing adaptability in dynamic labor markets. This theory has been widely applied in disciplines such as psychology, clinical medicine, and education (Fang, 2013;

Zhang et al., 2012). This study is based on the Social Cognitive Career Theory (SCCT) proposed by Lent et al. in 1994. This theory is greatly influenced by triadic interactive determinism, emphasizing that professional behavior is shaped by the mutual influence of an individual's internal factors and external environment. And this behavior will also have a reverse impact on personal internal factors and the environment. This model expresses the complex interaction of various elements as a dynamic model to explain the formation of individual career interests, career goals, and other career behaviors. Savickas (2005) posits that career adaptability reflects an individual's readiness to cope with career transitions, influenced by self-efficacy and environmental demands. The SCCT theory advocates that an individual's career development trajectory is not only influenced by psychological factors, but also cannot ignore the key role played by external environmental factors such as society and economy. In this process, considering self-efficacy and expected outcomes as core elements, they play a crucial role in career choice and development. For example, an individual's self-efficacy and expected outcomes in various professions are constrained by multiple factors. This includes factors such as social recognition of professions and the supply and demand situation in the job market. This theory helps people understand how individuals form career interests, set career goals, and achieve ultimate career development through continuous learning and adjustment in the social environment. It answers career questions such as "how people form career interests and goals through the relationships between elements, how people influence their attitudes and behaviors towards different career choices through self-efficacy, how people set and adjust their career goals to ultimately achieve their career development" (Lent et al., 2003). Lent and Brown (2013) elaborated on the issues of self-career management at different stages based on social cognitive theory, and subsequently constructed a social cognitive model for self-career management.

Conceptual Framework

This framework is illustrated in Figure 1.

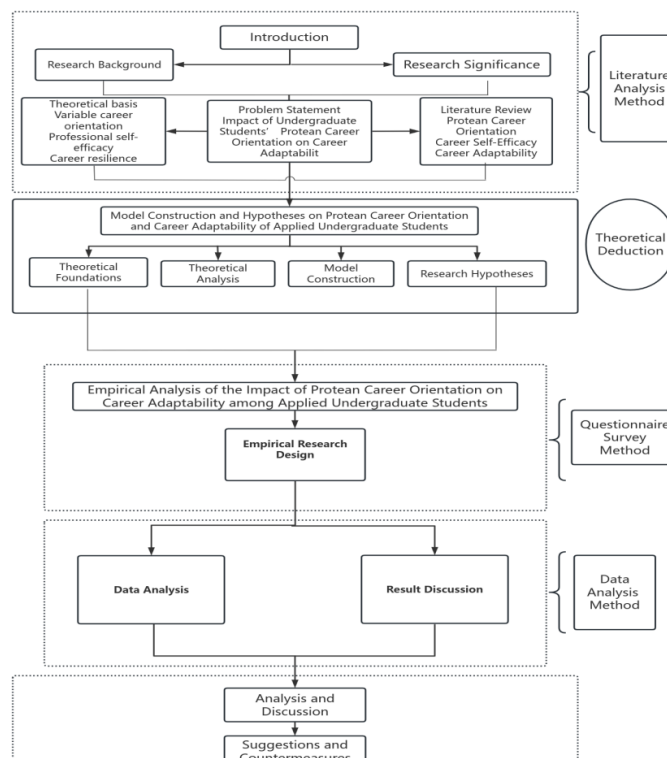


Figure 1 Conceptual Framework
Note: Constructed by the researcher

Methodology

Conduct a sampling survey of four applied undergraduate colleges within Henan Province, China. Henan Province was selected due to its representative applied education institutions and diverse student demographics. The questionnaire survey will be conducted in June 2024, and the samples will be distributed to first-year, second-year, third-year, and fourth-year students of the selected universities through the Wenjuanxing mini program with the help of teachers. According to Wu Minglong (2010), the appropriate sampling size for regional research samples is around 1000. Therefore, in this study, questionnaires were distributed to 1200 students in grades one, two, three, and four of four applied undergraduate colleges in Henan Province.

The core method of this study is a questionnaire survey, mainly using structured questionnaires to survey college students in the career establishment stage, measuring their three core variables of career orientation, career adaptability, and career self-efficacy. The measurement tools used in the questionnaire are all from mature scales, and their applicability in the Chinese Organizational Culture Hub has been validated. Using the Bootstrap method to examine the mediating role of career self-efficacy between the variables career orientation and career adaptability.

1. Research Tools

Variable Career Orientation Scale: This study adopted the Variable Career Orientation Scale developed by Briscoe et al. (2006) to evaluate an individual's degree of orientation in a variable career. This scale consists of two sub-dimensions: Self-Directed (SD) and Value Driven (VD). Self orientation, as a key indicator for evaluating an individual's ability to independently manage the ir career, includes 8 items that comprehensively reflect their comprehensive abilities in career planning, decision-making, and career management; Value driven measures the degree to which individuals adhere to their values in career decision-making, consisting of six questions that reveal how individuals make career decisions and actions based on their values and beliefs. This study used the Likert five-point scale for scoring, and the Cronbach's alpha coefficient of the questionnaire was 0.899, indicating that the scale has good reliability.

Career Self-Efficacy Scale: This study selected Peng and Long's (2001) Career Decision Self-Efficacy Scale based on Betz and Taylor's (1983) and combined it with the characteristics of Chinese university students to develop the revised College Student Career Decision Self-Efficacy Scale. A total of 1000 graduating students from 14 universities in Wuhan were selected as participants. This scale consists of 39 questions, divided into five dimensions: self-evaluation, information collection, target selection, making plans, and problem-solving. Questions 1, 6, 16, 21, 24, and 31 are self-evaluation; Questions 2, 7, 11, 17, 22, 25, 28, 32, and 34 are about collecting information; 3, 8, 12, 13, 18, 26, 29, 33, and 37 are the selection targets; The 4th, 9th, 14th, 19th, 27th, 30th, 36th, and 38th are for developing plans; The 5th, 10th, 15th, 20th, 23rd, 35th, and 39th are problem-solving. Using a Likert 5-point scale, from 1 point of 'completely lacking confidence' to 5 points of 'very confident', the level of confidence that the participants have in being able to complete the following questions is indicated. The Cronbach's alpha coefficient of this scale is 0.955, indicating excellent reliability.

Career Adaptation Scale: This study used the widely used career adaptation assessment tool, CAAS (Career Adaptation Abilities Scale) (Hou et al., 2012). CAAS includes four dimensions, namely the 4C model: Career Concern, Career Control, Career Curiosity, and Career Confidence. When evaluating an individual's depth of concern for the future and their preparation efforts for the future, the focus is on career development. Meanwhile, the dimension of career control is used to measure an individual's self-discipline in the process of career decision-making. In addition, the career curiosity dimension focuses on an individual's level of exploration of the environment and their willingness to seek career opportunities. As for the dimension of career confidence, it focuses on evaluating an individual's confidence in their ability to solve problems and respond to challenges. It is worth noting that the Cronbach's alpha coefficient of this survey questionnaire is as high as 0.955, indicating its high reliability.

2. Reliability analysis



The reliability analysis of the 12 items in the Variable Career Orientation Scale showed that the Cronbach's alpha internal consistency coefficient was 0.944. Conduct a reliability analysis on the two subscales of educational requirement self-efficacy and job responsibility self-efficacy in the Occupational Self-Efficacy Scale. The results showed that the Cronbach's alpha coefficients of occupational self-efficacy were 0.955, indicating high internal consistency reliability. A reliability analysis was conducted on 24 items of the Career Adaptability Scale, and the analysis results showed that the Cronbach's alpha internal consistency coefficient was 0.983.

Results

Description and analysis of the variable career orientation of applied undergraduate students.

The average and standard deviation of the variable career orientation of applied undergraduate students in the dimensions of "self orientation" and "value driven", as well as the average and standard deviation of the total score of the variable career orientation, are shown in Table 1.

Table 1 Descriptive statistics of variable career orientation (N=1022)

Dimension	Number of questions	M	SD	sort
Self directed	6	3.93	.73	1
Driven by values	6	3.84	.75	2
Variable career orientation total score	12	3.87	.69	

As can be seen, in this survey, the overall results of the variable career orientation of applied undergraduate students showed an average score of 3.87 and a standard deviation of 0.69. The scores of the two dimensions, ranked from high to low, are as follows: the average score for "self orientation" is 3.93 with a standard deviation of 0.73, and the average score for "value driven" is 3.84 with a standard deviation of 0.75, indicating individual differences in the level of variable career orientation among the participants in this questionnaire survey.

2. Description and analysis of vocational self-efficacy among applied undergraduate students

There are 4 dimensions of professional self-efficacy: 8 questions for collecting information, 6 questions for selecting goals, 6 questions for developing plans, and 2 questions for problem-solving, for a total of 22 questions. The occupational self-efficacy of college students was $M=3.53$, $SD=0.65$, with a mean value higher than the median value of 3, indicating that college students' occupational self-efficacy is at a medium to high level; The dimensions are in order of collecting information ($M=3.58$, $SD=0.81$), selecting targets ($M=3.44$, $SD=0.76$), developing plans ($M=3.70$, $SD=0.81$), and problem-solving ($M=3.41$, $SD=0.85$). Therefore, it can be seen that the degree of planning and information collection is higher compared to other dimensions, as shown in Table 2.

Table 2 Descriptive Analysis of Occupational Self-Efficacy (N=1022)

Dimension	Number of questions	M	SD	sort
Collecting Information	8	3.58	.81	2
select target	6	3.44	.76	3
draw up a plan	6	3.70	.81	1
Problem Solving	2	3.41	.85	4
Total score of occupational self-efficacy	22	3.53	.65	

3. Description and Analysis of Career Adaptability of Applied Undergraduate Students

The analysis results show that there are four dimensions of career adaptability: six questions on career attention, six questions on career control, six questions on career curiosity, and six questions on career confidence, for a total of 24 questions. The total score of career adaptability of the college students tested is $M=3.861$, $SD=0.705$. Compared to the median value of 3, it indicates that the career adaptability of college students is at an above-average level. The dimensions in order are career attention ($M=3.822$, $SD=0.788$), career control ($M=3.901$, $SD=0.734$), career curiosity ($M=3.816$, $SD=0.742$), and career

confidence ($M=3.904$, $SD=0.722$). From this, it can be seen that career confidence and career control have higher levels compared to other dimensions. As shown in Table 3.

Table 3 Description and Analysis of Career Adaptability

Dimension	Number of questions	M	SD	sort
Career Focus	6	3.822	.788	3
Career control	6	3.901	.734	2
Career curiosity	6	3.816	.742	4
Career confidence	6	3.904	.722	1
Total score of career adaptability	24	3.861	.705	

4. Correlation analysis between variable career orientation, career self-efficacy, and career adaptability dimensions

Through Person correlation coefficient analysis, the correlation analysis results between variable career orientation and various dimensions of career adaptability showed that the correlation coefficients between self orientation and career attention ($r=0.472$, $p<0.001$), self orientation and career control ($r=0.482$, $p<0.001$), self orientation and career curiosity ($r=0.489$, $p<0.001$), and self orientation and career confidence ($r=0.478$, $p<0.001$); The correlation coefficients between value driven and career focus ($r=0.424$, $p<0.001$), value driven and career control ($r=0.476$, $p<0.001$), value driven and career curiosity ($r=0.473$, $p<0.001$), and value driven and career confidence ($r=0.467$, $p<0.001$) indicate a moderate positive correlation between various dimensions of variable career orientation and career adaptability.

The correlation analysis results between variable career orientation and various dimensions of career self-efficacy show that the correlation coefficients between self orientation and information collection ($r=0.299$, $p<0.001$), self orientation and goal selection ($r=0.244$, $p<0.001$), self orientation and plan making ($r=0.327$, $p<0.001$), and self orientation and problem-solving ($r=0.253$, $p<0.001$); The correlation coefficients between value driven and information collection ($r=0.257$, $p<0.001$), value driven and goal selection ($r=0.201$, $p<0.001$), value driven and plan making ($r=0.295$, $p<0.001$), and value driven and problem-solving ($r=0.232$, $p<0.001$). This indicates a low positive correlation between variable career orientation and various dimensions of career self-efficacy.

The correlation analysis results between various dimensions of career self-efficacy and career adaptability show that the correlation coefficients between information collection and career attention ($r=0.412$, $p<0.001$), information collection and career control ($r=0.396$, $p<0.001$), information collection and career curiosity ($r=0.373$, $p<0.001$), and information collection and career confidence ($r=0.389$, $p<0.001$); The correlation coefficients between goal selection and career focus ($r=0.427$, $p<0.001$), goal orientation and career control ($r=0.413$, $p<0.001$), goal selection and career curiosity ($r=0.373$, $p<0.001$), and goal selection and career confidence ($r=0.389$, $p<0.001$); The correlation coefficients between plan making and career attention ($r=0.433$, $p<0.001$), plan making and career control ($r=0.433$, $p<0.001$), plan making and career curiosity ($r=0.426$, $p<0.001$), and plan making and career confidence ($r=0.450$, $p<0.001$); The correlation coefficients between problem-solving and career attention ($r=0.393$, $p<0.001$), problem-solving and career control ($r=0.369$, $p<0.001$), problem-solving and career curiosity ($r=0.361$, $p<0.001$), and problem-solving and career confidence ($r=0.370$, $p<0.001$) indicate a moderate positive correlation between the dimensions of career self-efficacy and career adaptability. As shown in Table 4:

Table 4: Summary of Relevant Dimensions of Variable Career Orientation, Career Self-Efficacy, and Career Adaptability

Factor dimension	1	2	3	4	5	6	7	8	9	10
1. Self-orientation	1									
2. Value-driven	.763 ***	1								



Factor dimension	1	2	3	4	5	6	7	8	9	10
3. Collect information	.299***	.257** *	1							
4. Select the target	.244***	.201** *	.648** *	1						
5. Develop a plan	.327***	.295** *	.591** *	.542** *	1					
6. Problem solving	.253***	.232** *	.616** *	.588** *	.562** *	1				
7. Career Focus	.472***	.424** *	.412** *	.427** *	.433** *	.393** *	1			
8. Career control	.482***	.476** *	.396** *	.413** *	.433** *	.369** *	.829** *	1		
9. Curiosity about career	.489***	.473** *	.373** *	.373** *	.426** *	.361** *	.860** *	.874** *	1	
10. Career confidence	.478***	.467** *	.389** *	.381** *	.450** *	.370** *	.827** *	.871** *	.883** *	1

operator asterisk Note: * $p < 0.05$, ** $p < 0.01$, $p < 0.001$

5. Analysis of the mediating role of occupational self-efficacy between variable career orientation and career adaptability

This study refers to the mediation effect test method proposed by Baron and Kenny (1986), and the mediation effect should meet three conditions: A. The self variable has a significant predictive effect on the dependent variable; B. The self variable has a significant predictive effect on the mediator variable, C. At the same time, both the self variable and the mediator variable are added to the regression model to predict the dependent variable. The mediator variable has a significant predictive effect, but the self variable's predictive effect will significantly decrease. If, after the decrease, the self variable no longer has a significant predictive effect on the dependent variable, it is called complete mediation; If the self variable still has a significant predictive effect on the dependent variable after the decrease, it is called partial mediation.

Due to significant differences in career orientation, career self-efficacy, and career adaptability among applied undergraduate students of different genders, as well as significant differences in career orientation, career self-efficacy, and career adaptability among students of different educational levels, it meets the statistical requirements for further analysis of the mediating effect of career self-efficacy. Therefore, this study used bias bias-corrected percentile bootstrap method to test the mediating effect of occupational self-efficacy on the variables career orientation and career adaptability. Model 4 (mediating effect model) in the macro process of SPSS developed by Hayes (2012) was used, and background variables (gender, grade) were used as control variables in the regression model. The results showed that in Model 1, the F-value was 43.995, $p = 0.000$, R^2 reaching a significant level. The standardized regression coefficients for variable career orientation ($\beta = 0.324$, $p = 0.000$, $R^2 = 0.339$) indicate that variable career orientation has a positive and significant impact on career self-efficacy, and can explain 33.9% of career self-efficacy. In this regression model, VIFs are all less than 10, indicating that there is no collinearity between the variables in the model. Therefore, condition 1 is met, and variable career orientation has a positive and significant predictive effect on dependent variable career self-efficacy; In Model 2, the F-value is 134.764, $p = 0.000$, Reaching a significant level R^2 , the standardized regression coefficients of variable career orientation ($\beta = 0.539$, $p = 0.000$, $R^2 = 0.533$) indicate that the variable career orientation of the subjects has a significant positive impact on career adaptability and can explain 55.3% of career adaptability. In this regression model, the VIFs are all less than 10, indicating that there is no collinearity between the variables in the model. Therefore, condition 2 is met, and the variable career orientation of the variable has a significant positive predictive effect on the dependent variable occupational self-efficacy; In Model 3, when the

independent variable variable variable career orientation and the mediating variable career self-efficacy are both included in the model, the F-value is 175.289, $p=0.000$, Significant R^2 results were achieved, with standardized regression coefficients for variable career orientation ($\beta=0.408$, $p=0.000$) and occupational self-efficacy ($\beta=0.405$, $p=0.000$), both of which were 0.639. This indicates that variable career orientation has a significant positive impact on career adaptation, while occupational self-efficacy has a significant positive impact on career adaptation, collectively explaining 63.9% of career adaptation. Compared to Model 2, the explanatory variance increased by 10.6%, and the standardized coefficient of variable career orientation decreased from the original ($\beta=0.539$, $p=0.000$) to ($\beta=0.408$, $p=0.000$). Meeting condition 3, variable career orientation has a significant impact on career adaptability, while the standardized coefficient of career self-efficacy decreases, indicating a significant predictive effect, as shown in Table 5:

Table 5 Mediating effect test of occupational self-efficacy between the variables career orientation and career adaptability

	career adaptability		Career self-efficacy		career adaptability	
	β	t	β	t	β	t
control variable						
gender	.073	1.722	.028	.645	.061	1.597
grade	.032	1.707	-.016	-.824	.038	2.252*
independent variable						
Variable career direction	.539	19.422***	.324	11.369***	.408	15.212***
Intermediary variable						
Career self-efficacy	-	-	-	-	.405	14.587***
R^2	.533		.339		.639	
adj $R - squared$.284		.115		.408	
F	134.764		43.995		175.289	
df	(3,1018)		(3,1018)		(4,1017)	

Operator asteriskNote 1: * $p<0.05$, *** $p<0.01$, $p<0.001$.

The effect size and confidence interval of the mediating effect of variable career orientation on the relationship between variable career orientation and career adaptation were analyzed. The results are shown in Table 6. The total effect value of career self-efficacy on variable career orientation and career adaptation is 0.539, the direct effect value is 0.408, and the Bootstrap 95% confidence interval of the mediating effect of attention control does not include 0. This indicates that variable career orientation can not only directly predict career adaptation behavior, but also predict career adaptation through the mediating effect of career self-efficacy. The direct effect (0.408) and mediating effect (0.131) account for 75.64% and 24.34% of the total effect (0.539), respectively.

Table 6 Decomposition Table of Total Effect, Direct Effect, and Mediating Effect

	effect value	Boot standard error	Boot CI lower limit	Boot CI upper limit	relative effect value
Total effect	.539	.048	.446	.632	
direct effect	.408	.046	.318	.499	75.64%
Pay attention to the mediating effect of control	.131	.019	.095	.171	24.34%

Note: Boot standard error, Boot CI lower limit, and Boot CI upper limit refer to the standard error of indirect effects estimated by the bias-corrected percentile Bootstrap method, as well as the lower and upper limits of the 95% confidence interval, respectively; All values are rounded to two decimal places.



Based on the above analysis, this study hypothesizes that the career self-efficacy of Chinese applied undergraduate students has a mediating effect on the relationship between their career orientation and career adaptability, which is valid.

Discussion and Conclusion

Limitations include reliance on self-report data and a cross-sectional design, which restricts causal inference. Future longitudinal studies could address these gaps.

1. Discussion on the Impact of College Students' Variable Career Orientation on Career Adaptability

This study found that there is a positive relationship between the variable career orientation of college students and their career adaptability; that is, the higher the level of variable career orientation of college students, the higher the level of career adaptability they exhibit. This may be due to several reasons:

College students with highly variable career orientations often have a more open and flexible attitude towards their career planning and future directions. They are willing to accept new career concepts and changes and maintain an exploratory attitude towards future career paths. This ability to actively adapt to new situations is an important component of career adaptability (Guan et al., 2016).

College students with high levels of career orientation often have a wider range of interests and diverse skills, which enable them to make quick and effective adjustments in their careers based on market demand and their situation. This ability not only enhances their competitiveness in the workplace but also improves their psychological adaptability when facing career changes.

This positive impact may also be related to the fact that these students are more inclined to adopt proactive career development strategies. They do not passively wait for opportunities to come, but take the initiative to seek and seize various possible development opportunities. This positive professional attitude and behavior further strengthen their career adaptability.

In summary, college students with high levels of career orientation demonstrate stronger career adaptability, showing an open and flexible attitude towards career planning and future directions, broad interests and diverse skills, as well as proactive career development strategies. Together, they have promoted their adaptability and competitiveness in their careers, which is consistent with the views of researchers in previous literature (Waters et al., 2014)

2. Discussion on the Impact of College Students' Variable Career Orientation on Career Self-Efficacy

This study found that there is a positive relationship between college students' variable career orientation and their professional self-efficacy. That is, the higher the level of variable career orientation, the easier it is for college students to obtain professional self-efficacy. Conversely, the lower the level of variable career orientation, the lower the level of professional self-efficacy exhibited by college students. The reason may be that, firstly, college students with high levels of career orientation tend to have a more open attitude and confidence when facing new challenges and opportunities, which builds their high-level career self-efficacy. Secondly, college students with low-level and variable career orientations are unwilling to accept more changing career environments, resulting in a lack of experience in career self-efficacy. This result is consistent with previous research findings (Hirschi et al., 2015; Rudolph et al., 2017; Luo et al., 2020). In summary, encouraging students to establish a positive and upward career orientation level, cultivating their professional self-efficacy, and promoting the comprehensive development of college students. At the same time, college students should actively face challenges and opportunities, constantly improve their abilities and qualities, and make full preparations for their future careers.

3. Discussion on the Impact of College Students' Career Self-Efficacy on Career Adaptability

This study found a positive relationship between career self-efficacy and career adaptability among college students. Specifically, applied undergraduate students with higher levels of career self-efficacy are more likely to improve their career adaptability. Conversely, at the end of the month, the career self-efficacy of college students manifests as lower levels of career adaptability, which is consistent with the views of researchers in this literature (Lent & Brown, 2013; Hirschi et al., 2015; McDow & Zabrucky, 2015; Guan et al., 2016). The reason may be:



When college students encounter setbacks in the job search process, a high level of self-efficacy can help them maintain calmness and optimism, thereby analyzing problems more rationally and finding solutions. This positive attitude will encourage them to constantly try, accumulate experience, and ultimately stand out in the fierce job market. In addition, college students with high levels of self-efficacy are often better able to seize opportunities and take the initiative, thereby increasing their chances of obtaining desired positions. Among high-level vocational self-efficacy college students, they will be more actively engaged in job-seeking activities, including carefully preparing resumes, actively participating in interviews, and striving to expand their network. In the face of various challenges and opportunities in the job market, high-level professional self-efficacy is equipped with the necessary ability to cope with various challenges in the job search process, thereby improving personal career adaptability.

4. The mediating role of career self-efficacy among applied undergraduate students in the impact of variable career orientation on career adaptability

This study found, through statistical analysis, that occupational self-efficacy partially mediates the relationship between variable career orientation and career adaptability. From this, it can be seen that the variable career orientation of college students can directly affect their career adaptability and can also indirectly affect their career adaptability through career self-efficacy. This phenomenon may have the following explanations:

Firstly, variable career orientation affects career self-efficacy: Variable career orientation refers to the flexibility and openness exhibited by individuals in the process of career planning and decision-making. When a person has a high degree of variable career orientation, they are more willing to accept new career opportunities and try different work paths. This openness and flexibility may enhance their confidence in their abilities in career development, thereby improving their career self-efficacy.

Secondly, career self-efficacy has a significant positive impact on career adaptability. Career self-efficacy refers to an individual's level of confidence in completing tasks and achieving goals within their professional field. When a person has high confidence in their professional abilities, they are more likely to adopt proactive coping strategies when facing challenges and difficulties in their career, thereby better adapting to various changes in their career and improving their career adaptability.

Finally, career self-efficacy mediates the impact of variable career orientation on career adaptability: career self-efficacy plays a mediating role in the path of the impact of variable career orientation on career adaptability. Variable career orientation indirectly affects career adaptability by influencing career self-efficacy. That is to say, variable career orientation can not only directly affect career adaptability but also indirectly promote the improvement of career adaptability by enhancing the mediating variable of career self-efficacy. This mediating effect indicates that career self-efficacy serves as a bridge between variable career orientation and career adaptability, closely linking the two.

In summary, this study reveals the mediating role of career self-efficacy between variable career orientation and career adaptability, providing a new perspective for us to understand the underlying mechanisms of career development. By enhancing career self-efficacy, college students can better cope with challenges in their careers, thereby improving their career adaptability..

Recommendation

To enhance the professional self-efficacy of college students and improve their career adaptability, schools and educational institutions can take the following measures:

Firstly, career planning courses and lectures can be conducted, and industry experts and career planners can be regularly invited to provide students with career planning courses and lectures, helping them understand the development trends, career requirements, and how to develop personal career development plans in different industries. Through these courses and lectures, students can gain a clearer understanding of their interests and strengths, thereby enhancing their sense of career self-efficacy. At the same time, universities establish career development guidance centers to provide one-on-one career counseling and guidance services for students. Career counselors can help students develop personalized



learning and career development plans based on their interests, abilities, and career goals, providing career information and resources to help students better understand themselves and the professional world.

Secondly, universities can establish alumni networks to provide a platform for communication and interaction between current students and alumni. Through communication with alumni, students can learn about their career development experiences, receive advice and guidance on career development, and enhance their sense of career self-efficacy. Schools can collaborate with enterprises to provide internship opportunities for students, allowing them to understand the professional environment and accumulate work experience through practical work. In addition, schools can also organize students to participate in various practical activities, such as volunteer service, entrepreneurship competitions, etc. Through these activities, students can enhance their practical and problem-solving abilities.

Educational institutions can also take a series of positive and effective measures: increasing school enterprise cooperation, providing internship opportunities for students, and allowing them to understand the professional environment and accumulate work experience through practical work. In addition, schools can also organize students to participate in various practical activities, such as volunteer service, entrepreneurship competitions, etc. Through these activities, students can enhance their practical and problem-solving abilities.

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