

Chinese College Students' Career Education Skills and Career Adaptability: The Mediating Effect of Career Decision-Making Self-Efficacy

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ABSTRACT

Objectives: The post-epidemic period has increased the uncertainty surrounding college students' employment and job search. As a result, it is essential to assist students in making career decisions in an unpredictable setting. Due to the increasing ambiguity around their future intentions, university students getting ready to enter the profession may feel more stressed and anxious. Their professional progress may be impacted by controlling such negative feelings and adapting to the changing environment. In the past, job searchers have faced significant obstacles due to the change in employment patterns and the extraordinary disruptions brought on by incidents like COVID-19. This is especially true for college students getting ready to start working. In this regard, improving career flexibility is essential to directing their professional growth.

Method: In this research, 273 Chinese undergraduate students were asked to examine the relationship between professional education skills and job flexibility. The study also aimed to ascertain how this connection was impacted by professional decision-making self-efficacy.

Results: Career education skills and work flexibility have a substantial positive link, according to the correlation study's findings. Moreover, the results of the mediation model showed that career education skills significantly increase career adaptability in addition to the mediating function of college students' self-efficacy in professional decision-making. When creating and expanding career education programs, institutions should prioritise them, according to this analysis.

Conclusion: College students should be assisted in creating a flexible and positive career perspective in addition to helping them identify particular career goals. This will enable them to more readily adapt to any changes that may arise along their professional adventures.

Keywords: University Students, Decision-Making Self-Efficacy, Career Development, College Students', Job Seekers, Career Education, China, COVID-19, Adapting.

1. INTRODUCTION

According to the Chinese Ministry of Education, by 2020, 8.74 million Chinese will have earned a college degree. The present crown pneumonia epidemic and economic downturns are only two of the many factors that make the employment prospects for college graduates unimpressive.

People need a range of abilities to enhance their employability and adapt to the complex and ever-changing outside world in the face of these unanticipated changes [1]. In addition to objective considerations and basic knowledge and abilities, persons must have certain personal qualities, such as resilience and career flexibility, to be able to handle changes in a job search process that contains many unknowns.

People that are resilient often have an internal control centre, are open to new experiences and curiosity, have strong life energy, and are positive about life. had a similar opinion, arguing that people with high resilience have a positive outlook on life and often perceive challenging and stressful circumstances as opportunities for growth and experience [1, 2]. According to studies, a person's ability to bounce back from setbacks throughout the vocational decision-making process is

correlated with their resilience. Individuals who exhibit more resilience also have less challenges when it comes to making professional decisions. Resilience is hence a favourable asset that may forecast a person's degree of professional decision-making.

The long-term worldwide effects of COVID-19 also contribute to job insecurity by raising the possibility of layoffs, decreasing the number of new job openings, and creating employment inequalities. When the present survey was carried out in the winter of 2020, COVID-19 was at its worst in South Korea, and people were constantly hearing bad news regarding the labour market. For example, although businesses have been delaying their hiring procedures, the employment rate for those aged 20 to 29 decreased by 2.5 percentage points in 2020 compared to 2019. This information comes from the Korean Statistical Information Service (2021).

As new possibilities emerge and established occupations leave, [2, 3], the labour market is becoming more uncertain as a result of these many shifts. University students getting ready to enter the industry can no longer anticipate a linear career growth in these uncertain and changing times [4]. They should prioritise developing resources that can be used flexibly in different contexts in addition to acquiring domain-specific knowledge and abilities. Finding elements related to adjusting to the unstable conditions of today's world is essential to helping college students with the school-to-work transition.

Career Adaptability (CA), a crucial component that must be improved in unpredictable times, particularly during the pandemic, has been the subject of recent research [4, 5]. One of the main elements of the career building model of adaptation, CA, relates to the psychological resources that people need in order to deal with the unstable job market of contemporary society. By helping people manage new responsibilities and transitions, [19, 20], CA may assist people in building their careers. Career construction theory views the development of careers from a contextual viewpoint, focussing on how people interact with and adapt to their constantly changing environment.

Examining university students' CA is therefore valuable since it not only aids in their successful transition to the workforce but also has a strong correlation with favourable factors like improved employment quality, satisfaction with work, overall and professional wellbeing, self-regulation, [5, 6], career building, and academic engagement.

As they go from school to their workplace and from one profession to another, people must continually adapt to changing conditions and overcome a range of adaptive challenges rather than assigned tasks. Career adaptability is a psychological tool or self-adjustment capacity that individuals employ to handle tasks associated with their current or future professional development, job changes, and career obstacles, according to Savickas [6, 7]. Career building theory states that professional development is essentially a positive, dynamic process where individuals try to mutually adjust their subjective selves to the external world. The process's beneficial outcomes and substance differ from person to person [8]. According to this theory, individual adaptivity promotes both the adaptation process and the development of adaptability and adaptation. Professional adaptability is a kind of adaptation (adaptive resource) according to career development theory. It is composed of four characteristics: career anxiety, career control, career interest, and career confidence. Career flexibility is seen as a crucial tool for people who are advancing their professions, aiming for career advancement, actively navigating a range of work-related challenges, and enhancing their well-being [9].

Professional flexibility is positively associated with individual professional advancement, according to existing scientific research [18]. In particular, job flexibility not only improves academic performance and results in more academic accomplishments, but it also fosters greater life happiness, which makes it easier to attain professional success [11].

CDMSE, or career decision-making self-efficacy, is the belief that one can do relevant tasks. To provide a cohesive framework for a deeper comprehension of how individuals create professional interests, make pertinent decisions, and strive for career success, social cognitive career theory was created [22]. The social cognitive career theory model places a high value on self-efficacy since it influences both academic and professional success [29]. It speaks to one's self-assurance in one's capacity to complete a single job or a set of tasks. It is possible to differentiate between more domain-specific self-efficacy, which could have a larger correlation with domain-specific factors, and generalised self-efficacy [30]. CDSE has been shown in several studies to be a significant predictor of people's career outcomes and behaviours [15,31,32]. Self-appraisal, occupational knowledge, goal selection, planning, and issue resolution are the five characteristics that make up CDSE, which is a measure of people's confidence in their ability to make successful career choices [33]. It is thought to be an important cognitive factor influencing job advancement [34].

Personality qualities have a major impact on employees' self-efficacy beliefs, which in turn have an impact on their career growth and workplace performance, according to the social cognitive career theory [29]. Among other personality qualities, initiative is a crucial competitive quality for professional advancement, particularly in the face of a drastically shifting labour market [35]. First put out a proactive personality is characterised by an individual's propensity to take the initiative to change their environment. It has been shown that proactive individuals are more likely to have high levels of self-efficacy [36]. A proactive attitude and academic self-efficacy were shown to be directly correlated by Lin and his colleagues [37]. A survey of 352 instructors, discovered a favourable correlation between self-efficacy and proactive personality. Proactive people seek to enhance their performance and skills, get the knowledge they need to make better choices, and are more self-initiated,

change-oriented, and future-focused than passive people [35]. People who are proactive are more likely to foster career growth and actively pursue professional achievement. Proactive personality traits like these are thought to be essential for a feeling of self-efficacy, which in turn helps one achieve better career results [20].

A crucial period in young people's life, college is where they establish objectives for their careers and research possible professional options. It may be difficult to decide on a job route and develop a work-related identity, however. For instance, choosing a job might be difficult due to the abundance of possibilities available. Furthermore, some students may not feel ready to choose a job since they don't have the knowledge about employers and professions. Students may participate in career exploration by actively obtaining and accessing career-related information to aid in the decision-making process [15, 16]. professional exploration may be seen as a kind of self-control that can assist students in selecting a professional path and achieving their goals. Career development research in general and the social-cognitive model of career self-management in particular both heavily rely on career exploration. Students might investigate their profession alternatives by looking at both their surroundings and themselves [10]. Students' awareness of their career options and how their interests, values, and behaviours fit into the workplace is increased when they gather information on career opportunities (e.g., [14,15], environment exploration) and reflect on how their (past) behaviour integrates with their future career (e.g., self-exploration).

The CSM model describes the relationships and joint effects of cognitive-person variables (e.g., career-related self-efficacy, outcome expectations, career-exploratory goals), personality traits (e.g., conscientiousness), contextual support factors (e.g., career support from family members), and barriers (e.g., financial constraints) on career exploration. Students' career decidedness, decisional anxiety, and career success variables are among the career-related outcomes that are predicted by career exploration as goal-directed behaviour.

A lot of study focus has been paid to examining the processes that predict and the results that arise from career exploration since a thorough assessment of career exploration was developed [17]. The field still lacks a thorough overview and empirical integration of research findings on the antecedents and outcomes of students' career exploration, despite the proliferation of studies on the topic over the past few decades and the fact that career exploration is essential to students' career preparation [17, 21]. The goal of the current meta-analysis is to provide a summary and empirical integration of earlier studies on students' career exploration using the CSM method [22, 23].

Additionally, those with high degrees of professional flexibility are more likely to get promoted and have lower turnover intentions. Therefore, it is essential to look into and clarify how university students might increase their career flexibility.

2. LITERATURE REVIEW

Liu, Z. (2019) [23] The idea behind constructivist methods to career adaptation study is that a person's career is shaped by the interaction between their environment and themselves. To examine the relationship between career flexibility and professional decision-making self-efficacy and social support, we used structural equation modelling to analyse longitudinal data from 145 Chinese undergraduate learners. As a powerful mediator of the association between flexibility in career and social support, our results provide vital evidence of the influence of self-efficacy in making professional choices. In addition to contributing to constructivist career theories with implications for counselling and practice, we provide integrative insights for comprehending the relationships between an individual's professional outcome, their environment, and themselves.

Wu, Q. (2024) [24] Chinese medical graduates have had a high attrition rate over the last ten years, and the COVID-19 epidemic has made matters worse. Students pursuing medical specialisation will be the driving force behind the healthcare sector in the future. The quality of healthcare delivery in the future will be greatly impacted by the career choices and self-assurance of people joining the field. Given the potential for future public health catastrophes like COVID-19, assisting students in cultivating strong job flexibility would benefit their future professional growth. Nevertheless, the connection between self-confidence in making career choices, career coping mechanisms, and professional adaptability remains unclear throughout COVID-19. This study aims to explore the connections among Chinese medical students' career coping methods, career adaptability, and self-efficacy when making career choices, as well as the mediating role of career decision-making self-efficacy.

Zhou, W. (2020) [25] As boundaryless jobs become more prevalent, people need to boost their career decision-making self-efficacy (CDSE) throughout work transitions to achieve better employment outcomes and long-term career advancement, especially when moving from an educational to a professional context. This study empirically proposed a model of moderated mediation based on social cognitive career theory to examine whether the family's socioeconomic background (including the family's financial situation, parents' educational achievements, and parents' professional level; measured at Time 1), proactive personality (measured at Time 1), and career success criteria clarity (CSCC, measured at Time 2) would contribute to CDSE (measured at Time 2). The following results were obtained from 235 students in college who took part in a two-wave survey: CSCC partly moderated the association between proactive personality and CDSE, proactive personality positively predicted CDSE, CSCC positively predicted CDSE, and CSCC had a higher positive influence on CDSE in learners with lower family socioeconomic position.

Li, M. (2016) [26] Combining the theories of career building (Savickas, 2013) and cognitive assessment (Ryan & Deci,

2002), we examined the ways in which traditionality beliefs impacted the indirect relationships among career decision-making self-efficacy, career adaptability, and parental support among Chinese university students. Two measuring sessions, spaced by 18 months, were used to collect data from 731 Chinese undergraduate students. The results showed that parental support at Time 1 was positively connected with career flexibility and professional decision-making self-efficacy at Time 1 and Time 2. Additionally, Time 1 job decision making self-efficacy was a conditional indirect impact of parental support in predicting Time 2 career adaptability, and students with low traditionality views were more likely to have this effect than those with strong traditionality beliefs.

Qin, J. (2022) [27] Despite the fact that studies have shown a strong association between CDSE and job searching, the exact nature of this relationship remains unknown. In order to clarify the mechanism behind the relationship between career exploration and CDSE, this study looked at the mediating roles of work volition and flexibility in careers among 586 pre-service kindergarten educators. The Ningxia Hui Autonomous Region in northwest China is home to Han, Hui, and other minority ethnicities. Their employment volition, career flexibility, career exploration, and confidence in making career choices (CDSE) were recorded at T1 of a two-wave, six-month longitudinal survey. The T2 CDSE and T1 career exploration showed a strong association, according to the results.

Jiang, X. (2017) [28] With a focus on the Chinese context, the present study adopts a novel strategy by investigating the relationship between Career Choice Self-Efficacy (CDSE) and life happiness. From the inner functioning process of CDSE, we also examined the mechanism of mediation behind this relationship using a three-dimensional CDSE models that includes goal planning self-efficacy (GPSE), collecting data self-efficacy (IGSE), and problem-solving self-efficacy (PSSE) (i.e., the connections between GPSE–PSSE–life Happiness and IGSE–PSSE–life satisfaction).

Quan, J. (2022) [29] The current study examined academic self-efficacy and career flexibility as potential mediators between hope, future work self, and life satisfaction. A survey of 636 Chinese vocational high school students was conducted to gauge their academic self-efficacy, career adaptability, hope, future work self, and life satisfaction. The findings indicated that: (a) hope, future work self, career adaptability, and academic self-efficacy were positively correlated with life satisfaction; (b) hopes and future work self-had an impact on life satisfaction that was mediated by career adaptability or academic self-efficacy; (c) higher academic self-efficacy was associated with greater career adaptability, which was associated with higher academic self-worth; and (d) men tended to report higher levels of hope, greater career adaptability, higher levels of academic self-efficacy, and higher lives than women.

Wang, J. (2024) [30] The study looks at the relationship between career calling and medical students' learning engagement in higher vocational schools, focussing on the roles that career flexibility and career choice self-efficacy (CDSE) play as chain mediators. In order to assess CDSE, career calling, learning engagement, and career flexibility, 173 students from three Chinese vocational colleges took part in a cross-sectional survey. The structural equation modelling method was used to examine the survey data. Chain mediation analysis revealed a substantial positive correlation between the vocational calling and learning engagement of medical students. Career adaptability was shown to slightly moderate the relationship between career calling and learner engagement, while CDSE did not demonstrate a meaningful mediation effect.

Wen, Y. (2023) [31] The study of college students' job search and the factors influencing it has been a significant topic of research in their career development. How happy a college student is with the results of their envisioned job search has a big influence on how sustainable their future career will be. Although a large body of research has shown the importance of core self-evaluation in the job search process, few studies have looked at the mechanism of action between core self-evaluation and job search outcomes. Therefore, this study was conducted using a chain mediation model to investigate the relationship between career exploration and career flexibility as well as the impact of core self-evaluation on job search outcomes.

2.1 Research Hypothesis

Hypothesis 1: *The career educational skills and career adaptability of college students are significantly positively correlated.*

Hypothesis 2: *Concern, control, interest, and confidence are significantly positively correlated with college students' personal perceptions and career planning.*

Hypothesis 3: *The association between career education skills and career adaptability among college students is mediated by career decision-making self-efficacy.*

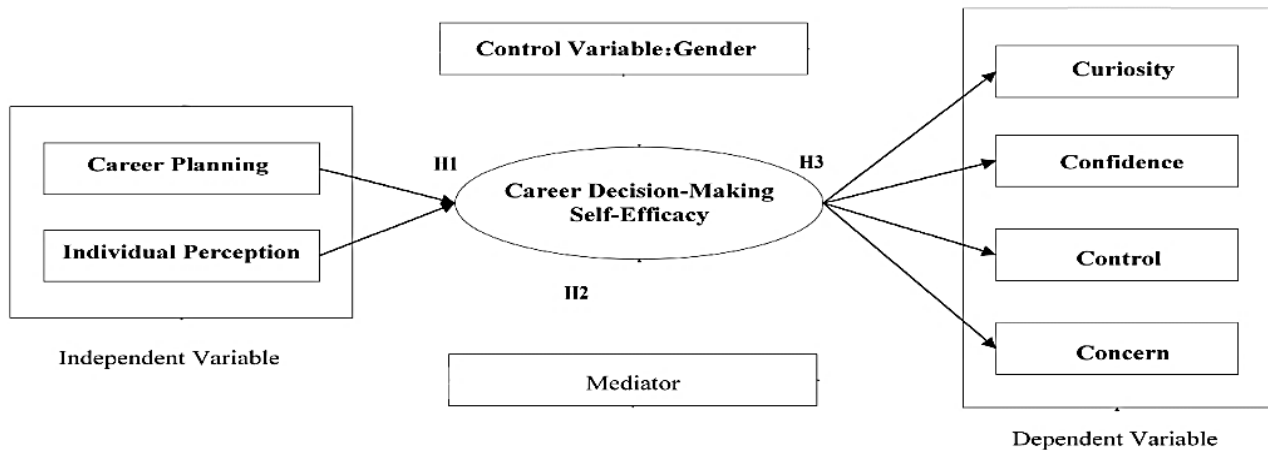


Fig. 1 Theoretical Research Framework.

3. METHOD

3.1 Participants

A random sample survey method was used at T University to collect the information for this study. The survey was accessible to all undergraduate students for a month. Survey questionnaires were used to gather information on career decision-making self-efficacy, professional self-development, career flexibility, and demographics. After questionnaires with irregular patterns or incomplete responses were removed, 222 of the 273 completed surveys that were considered authentic were experimentally examined. There were 55.9% female participants and 44.1% male participants overall [32]. The sample consisted of 2.3% of five-year students, 13.5% of college freshman, 42.3% of second-year students, 16.7% of students in their third year, and 25.7% of fourth-year students.

3.2 Measurements

- **Career education skills:** Individual perspective and career planning were the two characteristics used in this research to evaluate career education abilities. Cronbach's alpha gave the scale as a whole a reliability value of 0.9063.
- **Career adaptability:** University students' level of professional adaptability was assessed using the professional Adapt-Abilities Scale–Short Form (CAAS-SF). Four categories make up the scale: confidence, curiosity, control, and worry. There were three indications for each dimension [33]. With a Cronbach's alpha of 0.9317, the scale showed great dependability.
- **Career decision-making self-efficacy:** The Career Decision-Making Self-Efficacy Scale–Short Form (CDMSE-SF) was used to gauge the degree of self-efficacy college students have in making career decisions. The measuring tool consists of five parts: self-assessment, occupational knowledge, choosing objectives and planning, and problem solving. A Cronbach's alpha of 0.9373 indicated that the scale was very reliable overall.

3.3 Data Analysis

The descriptive statistics of the college students' self-confidence in making professional selections, career education skills, and career capacity to adapt were first examined and shown using Stata17. Then, using a bivariate correlation analysis, the relationships among career education skills, career flexibility, and professional decision-making self-efficacy were examined. Finally, we used maximum likelihood estimation (Mplus7.4) to evaluate the mediating impact of career decision-making self-efficacy on the relationship between professional education skills and career adaptability. There were no missing values in the research's data collection.

4. RESULTS

4.1 Descriptive statistics

The descriptive statistics for the skill set of career decision-making self-efficacy, career flexibility, and professional education are shown in Table 1. Skewness, kurtosis, minimum, maximum, mean, and standard deviation values are all included in the table. As shown by the mean score of 3.258, which was higher than the median, college students had attained a good learning result in the area of professional education abilities, according to the study [31]. Specifically, the average value of the individual perception dimension was 3.539, whereas the average value of the career planning dimension was 3.057. Specifically, the effects of career planning were much lower when professional education was included. Career adaptability had an average value of 3.752, which was better than the median. The college students' responses for the four traits of professional anxiety, control, curiosity, and confidence were similar, indicating a high level of development and well-rounded career adaptability.

Self-efficacy in making professional decisions averaged 3.535, which was higher than the norm. The college students demonstrated self-assurance in their capacity to assess themselves, acquire professional information, choose objectives, make plans, and resolve issues.

Table 1 Results of Descriptive Statistics Analysis.

		N	Mean	S.D.	M in	Ma x	Skew ness	Kurt osis
Career education skills	Individual perception	222	3.965	0.695	1	5	-0.590	3.659
	Career planning	222	3.419	0.489	1	5	-0.254	3.213
	Total	222	3.596	0.548	1	5	0.189	3.592
Career adaptability	Concern	222	3.496	0.621	1	5	-0.849	3.489
	Control	222	3.625	0.659	1	5	-0.489	3.649
	Curiosity	222	3.659	0.329	1	5	-0.541	3.215
	Confidence	222	3.489	0.489	1	5	-0.965	3.219
	Total	222	3.485	0.639	1	5	-0.489	3.659
Career decision-making self-efficacy	Self-appraisal	222	3.489	0.549	1.6	5	-0.492	3.149
	Occupational information	222	3.419	0.965	1.2	5	-0.659	3.659
	Goal selection	222	3.548	0.218	1.9	5	-0.542	3.059
	Problem solving	222	3.695	0.659	1.5	5	-0.659	3.259
	Total	222	3.489	0.529	1.6	5	-0.549	3.659

4.2 Correlation Analysis

The association matrix between career education skills (personal perception and career planning), career adaptability (career worry, career control, career interest, and career confidence), and college students' self-efficacy in making professional selections is shown in Table 2.

The factors' correlation coefficients were significant at the $p < 0.01$ level [33, 34]. The first finding highlighted the importance of professional education skills in assisting students in developing their adaptable abilities: a substantial positive correlation was established between career education skills and career adaptability ($r = 0.596$, $p < 0.01$). Second, self-efficacy in choosing a job was strongly positively correlated with professional education skills ($r = 0.633$, $p < 0.01$), suggesting that better levels of career education are associated with more confidence in choosing a vocation. A significant positive correlation was also found between career decision-making self-efficacy and career adaptability ($r = 0.785$, $p < 0.01$), [35], indicating that greater levels of self-efficacy in career decision-making were also associated with higher levels of career adaptability. Gender was also substantially positively connected with self-efficacy in professional decision-making ($r = -0.129$, $p < 0.1$), particularly in the domains of self-appraisal, occupational knowledge, and planning. This suggests that certain aspects of college students' self-efficacy in choosing a career may be impacted by gender inequality.

Table 2 Results of Correlation Analysis.

Variables	1	2	3	4	5	6	7	8	9	10
Career education skills	1.000									
Career adaptability	0.596** *	1.000								
CDMSE	0.219** *	0.895** *	1.000							
Gender	-0.418** *	0.048** *	0.798** *	1.000						
Individual perception	0.214** *	0.489** *	0.418** *	0.489** *	1.000					
Career planning	0.659** *	0.589** *	0.419** *	0.477** *	0.496** *	1.000				
Concern	0.489** *	0.968** *	0.658** *	0.489** *	0.965** *	0.849** *	1.000			
Control	0.625** *	0.848** *	0.659** *	0.629** *	0.419** *	0.048** *	0.418** *	1.000		
Curiosity	0.489** *	0.450** *	0.648** *	0.489** *	0.659** *	0.468** *	0.964** *	0.968** *	1.000	
Confidence	0.396** *	0.478** *	0.962** *	0.236** *	0.639** *	0.639** *	0.486** *	0.896** *	0.849** *	1.000

4.3 Mediation Model

After adjusting for gender, we tested the mediating role of career decision-making self-efficacy between professional education skills and career adaptability using a bootstrap technique and a mediation model. It is widely acknowledged that a threshold value of around 0.95 for TLI and CFI and a cutoff value of approximately 0.08 for SRMR are necessary before judging that the suggested model and the observed data fit each other quite well.

The model fit indices (CFI = 0.972, TLI = 0.956, SRMR = 0.045) therefore demonstrated a respectable goodness of fit. The model's results [36] are shown in Table 3. With a confidence range of [0.025, 0.559], the mediation model's estimate of the direct effect of professional education skills on career adaptability was 0.259 ($R^2 = 0.518$, $p = 0.052$), indicating a significant influence of these skills on career adaptability at the 10% level. Professional decision-making self-efficacy and career education skills and career adaptability had an indirect connection of 0.461 ($R^2 = 0.721$, $p < 0.01$) with a confidence range of [0.286, 0.647], [22, 36]. According to these results, professional education skills have a direct positive impact on career flexibility. The relationship being mediated via self-efficacy in professional decision-making [37] further supports the indirect influence. Figure 2 shows the results of the mediation analysis graphically.

Table 3 Results of the Mediation Model.

Pathways	<i>Estimate</i> $\frac{95\%CI}{Lower\ Upper}$				Estimate/ S.E.	<i>p</i> -Value
Direct Effects						
Career education skills →Career Adaptability	0.289	0.054	0.548	0.148	1.489	0.089
Indirect effects						

Career education skills →career decision-making self-efficacy →Career adaptability	0.4 89	0.2 85	0.0 98	0.968	0.986	0.000
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5. DISCUSSION

Notably, valence and professional decision-making complexity showed substantial (although small) positive relationships, as opposed to the negative correlations often shown in earlier research [38]. Future concerns might be the cause of the surprising positive association between valence and difficulties making career decisions. Several researches have shown that anticipating the future may produce both pleasant and negative emotions. College students who must cope with social-cultural development responsibilities and the transition from school to the job are likely to experience anxiety and uncertainty if they see the future as important [39]. In particular, those with a pessimistic perspective on the future may be more likely to adopt an avoidant or dependent decision-making style, which might lead to hesitation, since placing a high value on performance could be detrimental.

Because our sample included a range of locations and educational settings, it may be representative of Chinese college students. It is important to use caution when projecting our results to other civilisations. Chinese students have greater difficulty selecting a career than students in the US and other English-speaking countries, according to an international survey.

As anticipated, the current research demonstrated the mediating function of CSCC in the relationship between proactive personality and CDSE, supporting the view expressed by [40] that proactive personality will lead to proactive, motivated behaviours that help define one's professional path. The findings also demonstrated that proactive personality and CSCC are positively correlated, bolstering the social cognitive career hypothesis that personality influences how individuals formulate their own professional objectives. Boundaryless and protean careers have led to a constant change in the work environment as well as in individual interests, objectives, and values. Individuals must so continue to take the initiative to advance their professions using precise standards for job success. Additionally, the findings demonstrated a positive correlation between CSCC and CDSE, adding to the body of knowledge by demonstrating that people with well-defined career objectives and relevant cognitive abilities were better able to provide accurate self-evaluations and acquire occupational knowledge.

Both contextual and individual factors should be taken into account while developing a career, according to the sustainable career approach. Regarding the contextual influence, our data showed no discernible relationship between family socioeconomic position and CDSE, which is consistent with similar but contradictory findings from other research. The social cognitive career theory postulates that contextual influences may interact with subjective variables to influence career development, and this finding is consistent with the finding that family income has a positive relationship with CDSE. Many researchers have presented empirical data supporting the direct relationship between family income and self-efficacy, job choices, projected professional success, and career advancement [23], but fewer researchers have examined the moderating role of family income. In support with trait activation theory, this research offers empirical evidence that family wealth adversely moderates the impact of CSCC on CDSE.

In particular, the impact of CSCC is obscured by a high family income as positive economic circumstances boost self-esteem. For instance, family members that earn a lot of money may watch professional role models, go to job training, and acquire relevant social resources [12]. In addition, children will gain from economic wealth, social standing, and other factors, and family income is a reflection of parents' professional achievements. Therefore, even if they are not quite clear about their job success criteria, people will feel more confident in making career selections in such a powerful circumstance. On the other hand, those with lower family incomes are seen as being in a vulnerable position, allowing their personalities to be triggered. In other words, the impact of CSCC on CDSE is greater.

The link between CSCC and CDSE is interestingly influenced by just one of the six moderators (family socioeconomic status, family income, parents' educational and vocational levels). First, children's CDSE is unrelated to parents' educational attainment.

According to this research, resilience and professional flexibility are beneficial traits that may successfully lower the degree of personal career decision-making challenges [25]. To put it practically, a person who is more resilient in pursuing their life objectives and who can remain positive and open-minded in the face of adversity is probably also more self-conscious and actively considers their professional growth [23]. Self-efficacy in addressing issues related to the sector is high, as is interest in and study into career choices. As a result, these favourable aspects could help individuals assess their lives more favourably and bounce back from setbacks more quickly.

In terms of results, our findings suggest that career exploration might improve students' perceived employability, reduce decisional discomfort, and increase their preparedness to choose a certain career route. However, various aspects of decisional anxiety were linked to job exploration in different ways. In particular, career exploration was unrelated to decisional stress (i.e., [22], undesired stress during the decision-making process) and commitment anxiety (i.e., anxiety about committing to a career decision), but it was negatively correlated with career self-doubt (i.e., doubts about one's career

choice). The goal of job exploration is to provide students information about careers that might help them make better decisions by lowering their doubts and uncertainties. However, some students may find the process of acquiring this knowledge stressful, which might account for the absence of a correlation between career exploration and decisional stress, given that they often feel under a lot of pressure to choose the proper vocation. Lastly, the lack of knowledge linked to commitment anxiety may be lessened by job exploration [23]. At the same time, it can increase the number of job possibilities that are cognitively accessible, which might lead to problems when choosing between two good options and other elements of commitment anxiety.

In terms of the association with demographic factors, we discovered a positive, if slight, correlation between age and both self- and career exploration in general. Given that they are probably farther along in their education, older students could be more inclined to explore career options in order to locate positions that align with their beliefs and previous professional conduct and to get ready for the impending shift from college to the workforce. Unexpectedly, there was a negative correlation between SES and environment exploration. One reason might be that students with greater socioeconomic status are more confident about their future careers and, as a result, put out less effort to investigate potential career choices [33].

The findings of the correlation analysis validated a substantial positive relationship between professional education skills and career flexibility, supporting the idea that human capital improves career flexibility. Both the person view and career planning components [40,41], which together include career education skills, showed a substantial positive correlation with career flexibility. The findings demonstrated that occupational flexibility is influenced by both external (career planning) and internal (personal perception) influences. According to career development theory [37], career flexibility is characterised by a variety of elements, including planning, exploration, and decision-making, all of which are indicators of professional maturity [33]. This suggests that by using a variety of strategies to help students make professional decisions and increase their career flexibility, we may foster their capacity for self-discovery and vocational planning. The study's significant positive connections between professional education skills and career flexibility, especially across all dimensions, provide greater credence to the notion of career creation.

6. LIMITATION

First, self-report questionnaires, which may induce answer biases, were used to collect the data.

Second, since the survey respondents in this study were restricted to one Chinese institution, care should be used when extrapolating the research results to a broader population. Future research should aim to include participants from a range of educational institutions, regions, educational levels, and subject areas in order to increase the study's generalisability.

Third, even though the cross-sectional data utilised in this study supported the link, it was not feasible to investigate the temporal dynamics between these factors or make inferences about causation. To overcome this limitation, it would be beneficial to use a combination of qualitative and quantitative methods for in-depth study, drawing inspiration from earlier studies.

Finally, the findings pertain to a cohort of students whose personal viewpoints and future aspirations were influenced by certain professional education patterns. However, since we are unable to identify the patterns and connections that may appear among students who have not participated in professional education, we still lack sufficient information. To overcome this limitation and provide a control group for comparison analysis, future studies will gather information from students who have not had exposure to professional education.

There are many limitations to the current investigation. First, even if the common method bias was lessened by the two-wave design, it is still impossible to determine the causal linkages between the variables in question. To evaluate the causal effects, future studies should use a more rigorous methodology, such a longitudinal one. Second, more research is necessary to determine if the findings can be applied to a western cultural setting, given that they were derived from a sample of Chinese students. The correlations between these factors may be influenced by cultural perspectives. For example, Chinese students are more prone than American students to seek counsel from significant others while making professional selections.

7. CONCLUSION

First, the study discovered that Chinese college students who received career education had a higher level of career adaptability because professional education learning and career adaptability growth were significantly positively correlated. The subdimensions of professional education abilities, individual viewpoint, and career planning were also significantly positively correlated with career concern, career control, career interest, and career confidence.

Second, the research demonstrated the importance of self-efficacy in professional decision-making and discovered that career education improved the work adjustment abilities of Chinese university students. This highlights how important it is to provide kids the information and confidence they need to choose their careers intelligently.

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