

The impact of university students' career management on employability: The mediating role of professional decision self-efficacy



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ABSTRACT

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This research investigates the relationships between employability, career decision-making self-efficacy and career management among university students in the Greater Bay Area of Guangdong, Hong Kong and Macau. The objective of this study is to comprehend how these elements interact and have an impact on one another regarding students' professional growth. A systematic questionnaire survey was conducted using validated measures created by experts to guarantee validity and reliability. Information was gathered from 631 university students in the Greater Bay Area. The study used a quantitative research approach to assess the correlations among the important variables—individual career management, employability and self-efficacy in making career decisions by statistically analyzing the data obtained. The data suggest that career management greatly improves students' employability. Furthermore, employability is greatly impacted by individual career management which also has a favourable effect on professional decision-making self-efficacy. Notably, employability and personal career management are mediated by self-efficacy in professional decision-making. Education departments, institutions and students should collaborate to emphasize the importance of individual career management. Providing tools and support can enhance students' employability and self-efficacy in making informed career choices.

Contribution/ Originality: This study first integrates samples from multiple universities to explore how individual career management influences students' employability through career decision-making self-efficacy, revealing the mediating role of this process and providing new empirical insights for the related field.

1. INTRODUCTION

The two special administrative regions of Hong Kong and Macau and nine cities in Guangdong Province comprise a metropolitan cluster known as the Greater Bay Area. It has significant importance and is thus placed in the heart of China's national strategy for growth [1]. The Greater Bay Area's growth has not only supported the world economy but also attracted a substantial amount of exceptionally skilled people [2]. However, students in the Greater Bay Area are facing employment problems nowadays as a result of the quick changes in social and economic dynamics [3, 4].

Chinese university enrollment has been increasing recently but the COVID-19 epidemic with its accompanying recession has had a detrimental effect on the graduate employment market which has resulted in a sharp reduction in work possibilities. University students must improve their employability skills in this difficult environment to successfully navigate the increasingly competitive job market [5-7]. This requirement emphasizes

how crucial it is for students to acquire career management skills that will allow them to properly plan their careers and adjust to the constantly shifting needs of the job market in addition to helping them discover their professional interests and talents [8, 9]. Students may enhance their employability over the long term, obtain a competitive advantage, and become more self-assured and proactive in the job search process through the acquisition of these abilities [10, 11]. Accordingly, the employability of university students must be prioritized and stressed for the thorough and efficient development of top talented calibers in universities.

Self-career planning not only helps individuals define their job objectives but also greatly improves their self-efficacy. Students who actively plan their careers are better able to pinpoint their interests and talents which enables them to develop detailed action plans to achieve their goals. Through this procedure, they might progressively gain positive experiences which increases their confidence [12, 13]. Students are more inclined to actively seek out job prospects, network and get ready for interviews when they believe they can manage their career development efficiently. This increases the students' chances of finding employment [14, 15]. On the other hand, low self-efficacy might cause university students to face more obstacles while making professional decisions and throughout the job search which can negatively impact their employment prospects [16]. For example, students who have self-doubt may go away from career chances or do badly in interviews. Furthermore, the absence of self-efficacy can lead to worry and uncertainty, thus lowering students' willingness to pursue employment.

More research is needed to fully understand the mediating role that individual career management plays in employability especially concerning self-efficacy in making career decisions. The current study seeks to close this gap by concentrating on college students in the Greater Bay Area, one of China's most competitive employment marketplaces. We will explore how employability and individual career management are mediated by self-efficacy in career decision-making. The goal of the research is to provide better knowledge of how careers evolve on an individual basis and to provide focused solutions for people and organizations navigating the labor market. Accordingly, this study applies a quantitative analytic technique and focuses on university students in the Guangdong-Hong Kong-Macao Greater Bay Area. It investigates the relationships and effects of students' employability, career management and self-efficacy in making career decisions. The objective is to determine the most efficient routes for students' growth. This can be achieved through (1) examining the relationship between employability and individual career management among Greater Bay Area university students and (2) determining if career decision-making self-efficacy influences this relationship.

2. LITERATURE REVIEW

2.1. Individual Career Management and Employability

According to Jackson and Wilton's [17] research, those who manage their careers more effectively often have more employability. They stress the importance of career management during students' academic years for those hoping to improve their employability and thrive in the current tough graduate job market. Similarly, career management abilities have been linked to employability since they can improve a person's success rate in the job market and more successfully attract, retain, and enhance the performance of recent graduates. Further evidence shows that improving self-directed career management strategies might increase students' employability was provided by Kaur and Kaushik [19]. Yıldız, et al.'s [20] study verified that employability is highly positively correlated with career management among university students. Thus, the purpose of this study is to look at how university students in the Greater Bay Area handle their careers. It also looks into whether developing these abilities increases employability which improves students' competitiveness in the job market. In addition, the study explores practical methods for assisting students in developing their career management abilities. In light of these factors, the following hypotheses are proposed:

H₁: Individual career management significantly impacts employability among university students in the Greater Bay Area of China.

2.2. Individual Career Management and Career Decision-Making Self-Efficacy

Wang and Jiao [21] found that individual career management and self-efficacy in making professional decisions were significantly positively correlated. Similarly, they found that the impact of professional social support on individual career management is mediated by self-efficacy in making career decisions. Lent et al. [22] found a significant relationship and predictive function between self-efficacy and personal career management. Song et al. [23] discovered that greater individual career management abilities are linked to higher levels of self-efficacy. Self-efficacy partially mediates the relationship between psychological empowerment and personal career management [23]. Furthermore, according to Zhao and Lv [24] self-efficacy has a substantial influence on the individual career management of private school teachers. At the same time, Turgut and Neuhaus [25] found that individual career management helps to improve self-efficacy [24]. All these studies point to the recognized importance of self-efficacy in managing one's profession. Therefore, the following hypothesis is proposed:

H₂: Individual career management significantly impacts career decision-making self-efficacy among university students in the Greater Bay Area of China.

2.3. Career Decision-Making Self-Efficacy and Employability

According to an earlier study, employability and self-efficacy are two different but related concepts. Increased employability raises people's self-efficacy [26]. People's confidence and assurance in their job choices and progress are certainly increased by the sense of control that comes with employability which in turn increases their self-efficacy [27]. Significant and positive relationships between career decision self-efficacy and several employability aspects were found by Zhou et al. [28]. Twum-Darko [29] emphasized that the choice of career self-efficacy is a predictor of employability that affects people's career decisions, intentions, and efforts during job searches. According to research, workers who have a higher sense of employability are more productive at work, get more praise and recognition from superiors and peers, and have access to better career possibilities, all of which help them make better career decisions [30]. University students' employability is substantially predicted by their self-efficacy in making career decisions [31]. Consequently, the following hypothesis is proposed:

H₃: Career decision self-efficacy positively influences employability among university students in the Greater Bay Area of China.

2.4. Individual Career Management, Career Decision-Making Self-Efficacy and Employability

Career decision self-efficacy has been shown through extensive studies to be a well-defined mediating variable. This idea is the particular way that self-efficacy is used in the professional sphere. The study discovered a significant and positive relationship between career management abilities and self-efficacy in making professional decisions [21]. Self-efficacy in making professional decisions is significantly and positively correlated with several employability factors [32]. The interconnectedness of these variables has been highlighted by a recent scholarly study that has examined their interactions with one another. Research examining the mediating function of self-efficacy in career decisions reveals that it completely mediates the relationship between career decisions and career orientation [33].

Additionally, it mediates the relationship between occupational decision-making challenges and emotional intelligence to some extent Santos et al. [34]. Storme et al. [35] highlighted the importance of self-efficacy in linking difficulties in making professional judgments with ambiguity tolerance as a moderating variable in choosing a job. A large amount of research confirms that career decision self-efficacy is a well-established mediating variable. Consequently, the following hypothesis is proposed:

H₄: Career decision self-efficacy mediates the relationship between self-directed career management and employability among the Greater Bay Area of China university students.

3. METHODOLOGY

3.1. Research Design

A literature review and analysis are carried out following the objective of this study to clarify the links between various factors further with the employability of university students in the Guangdong-Hong Kong-Macao Greater Bay Area of China serving as the primary research variable. According to [Lent et al. \[36\]](#) this study examines the relationship between employability, self-care management, and self-efficacy in professional decision-making based on social cognitive career theory. Therefore, the framework of this study is depicted in [Figure 1](#).

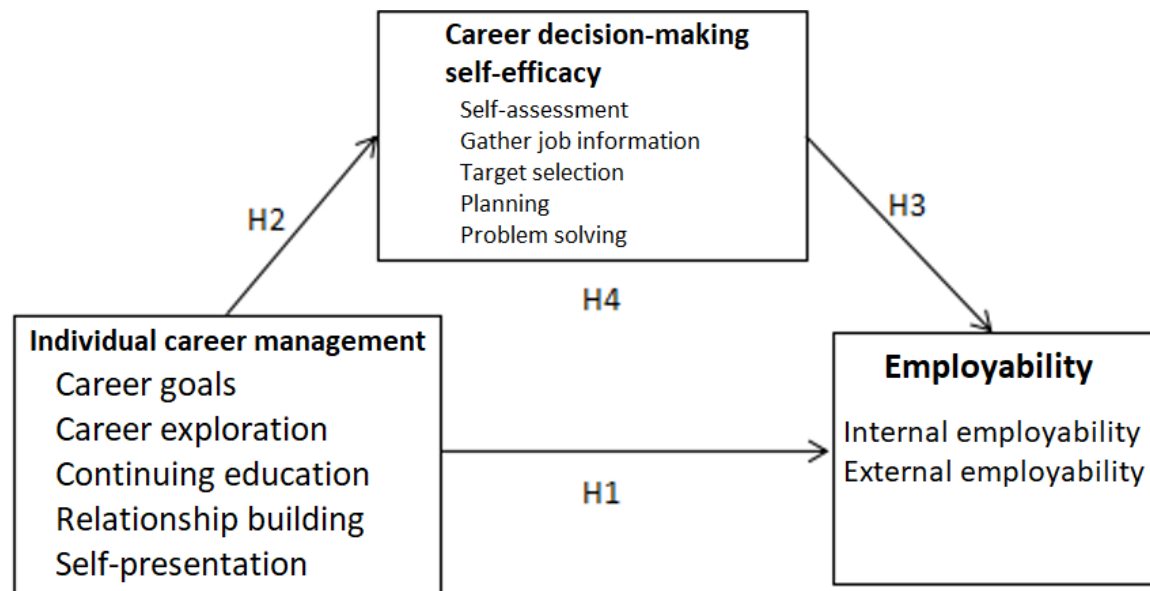


Figure 1. Hypothesized simple mediation model of the relations among individual career management and employability and the mediating role of career decision-making self-efficacy.

3.2. Research Population

Undergraduate students from six Greater Bay Area universities Tung Wah College, Macau University of Science and Technology, Foshan Polytechnic College, Foshan University, Guangzhou Huashang College, and Guangdong Industry Polytechnic University were chosen by convenience sampling. After removing 21 erroneous answers from the 652 surveys, a final sample of 631 individuals (effective response rate: 96.779%) was obtained. There were 230 females (36.5%) and 401 males (63.5%) among the responders.

3.3. Instrument

The 18 questions on the individual professional self-management scale created by [Long et al. \[37\]](#) are divided into five categories: professional objectives, career exploration, connection building, ongoing education, and self-presentation. The rating system was four points (1 being "strongly disagree" and 4 being "strongly agree"). The scale showed strong validity (factor loadings between 0.588 and 0.888) and reliability (Cronbach's alpha = 0.812).

[Betz et al. \[38\]](#) redesigned the career decision self-efficacy scale which is comprised of 25 questions that are divided into five categories. We employed a 5-point Likert scale where 1 was "no confidence at all" and 5 was "complete confidence". The scale demonstrated high validity (factor loadings ranging from 0.729 to 0.899) and reliability (Cronbach's alpha = 0.94).

The 11 components that make up the employability scale created by [Rothwell and Arnold \[39\]](#) address both internal and external employability. The rating system used was five points where 1 was "strongly disagree" and 5 was "strongly agree". This scale showed strong validity (factor loadings ranging from 0.683 to 0.871) and reliability (Cronbach's alpha = 0.83).

AMOS and SPSS were used for data management and analysis. Descriptive statistics, confirmatory factor analysis, exploratory factor analysis, reliability analysis, Pearson correlation analysis, and multiple linear regression analysis were among the techniques used.

3.4. Validity and Reliability Tests

Each measurement model's validity and reliability should be examined before doing route analysis. Cronbach's alpha was employed in this investigation to validate the test scale's internal consistency. Hair [40] claimed that depending on factor loadings (FL) and average variance extracted (AVE), the composite reliability (CR) in structural equation modeling should be greater than 0.700 and the convergent validity should be greater than 0.500. This suggests that discriminant validity is high. Table 1 shows that the questionnaire has significant discriminant validity since the factor loadings, composite reliability and average variance in this study satisfy the norms that academics have advised.

Table 1. Reliability and validity analysis.

Constructs	M	SD	α	CR	AVE	FL
Individual career management	2.737	0.582	0.955	0.888	0.695	0.784
Employability	3.583	0.774	0.965	0.949	0.725	0.792
Career decision-making self-efficacy	3.390	0.779	0.984	0.939	0.756	0.825

Note: M: Mean; SD: Standard deviation; CR: Composite reliability; AVE: Average variance extracted; FL: Factor loadings.

4. RESULT

4.1. Model Fit Analysis

This study used Structural Equation Modeling (SEM) to validate the research framework. In the fit indices, $\chi^2/df=4.654$, RMR=0.021, SRMR=0.0208, and NFI, TLI, CFI, RFI, and IFI are all >0.900, PNFI=0.752, PGFI=0.617 indicating that the model fits well according to these criteria. Statistical results are shown in Table 2 demonstrating a good fit of the structural model in this study.

Table 2. Model fit analysis.

Index	Critical value	Actual value
χ^2/df	< 5.000	4.654
RMR	< 0.080	0.021
SRMR	< 0.080	0.0208
NFI	> 0.900	0.973
TLI	> 0.900	0.972
RFI	> 0.900	0.965
CFI	> 0.900	0.978
IFI	> 0.900	0.978
PNFI	> 0.050	0.752
PGFI	> 0.050	0.617

Note: RMR: Root mean square residual; SRMR: Standardized root mean square residual; NFI: Normed fit index; TLI: Tucker-Lewis index; RFI: Relative fit index ; CFI: Comparative fit index ; IFI: Incremental fit index; PNFI: Parsimonious normed fit index; PGFI: Parsimonious goodness-of-fit index.

4.2. Path Analysis

This study used AMOS to create a structural equation model investigating the relationships between career decision self-efficacy, individual career management, and employability after performing a common method bias test on all components. The findings of the path analysis as presented in Table 3 corroborate H1 by showing that employability among university students is considerably favorably influenced by individual career management

($\beta=0.752$, $p<0.001$). Furthermore, individual career management strongly predicts university students' employability ($\beta=0.411$, $p<0.001$) which considerably influences their self-efficacy in making career decisions ($\beta=0.683$, $p<0.001$). This supports hypotheses H2 and H3. Furthermore, partial mediation is shown by the indirect impact which is $0.683*0.411=0.281$ (<0.752).

Table 3. SEM analysis.

Path	B	S.E.	C.R.	Hypothesis
Individual career management → Employability	0.501***	0.043	12.645	H1
Individual career management → Career decision self-efficacy	0.683***	0.041	17.925	H2
Career decision self-efficacy → Employability	0.411***	0.038	10.985	H3

Note: *** <0.001 .

RMR: β : Beta (Regression coefficient), S.E.: Standard error; C.R., Critical ratio.

The mediating impact was assessed verifying hypothesis H4 and demonstrating the mediating role of self-efficacy in career decisions using a bias-corrected bootstrap with a 95% confidence interval (repeated sampling 5,000 times). The direct effect of career management on an individual's employability as indicated by Table 4's data was 0.501, with a range of 0.466 to 0.633. The indirect relationship between career decision self-efficacy and employability was 0.280 with a range of 0.205 to 0.415 between individual career management and employability. This suggests that among university students, the relationship between employability and individual career management is somewhat mediated by career decision self-efficacy.

Table 4. Bootstrap intermediary effect checklist.

Path	Value	95% CI for bias correction	
		Upper limit	Lower limit
Total effect	0.781	0.785	0.935
Direct effect	0.501	0.466	0.633
Indirect effects	0.280	0.205	0.415

5. DISCUSSION

According to the study's findings, career management practices by college students have a major favorable influence on employability which is consistent with other research findings [20, 41]. Effective self-care management can assist students in better planning and achieving their professional objectives [42]. People can get a better understanding of their interests, skills, and beliefs through self-assessment and career exploration which is essential for professional development [8]. Additionally, people may more effectively study and practice the necessary professional knowledge and abilities, which will enable them to better adjust to the various demands of the workplace by developing and implementing successful career goals and plans [43]. Students can better prepare for their professions and deal with obstacles at work by practicing self-care management [44]. College students may become more competitive in the job market, more effectively accomplish their career development objectives, build a strong foundation for future employment and careers, thrive in a highly competitive environment and make a lasting impression on employers by practicing good career management.

Furthermore, the study's findings demonstrate that career management practices among college students have a major beneficial influence on their self-efficacy in making professional decisions. This aligns with the study findings of Jackson and Wilton [17] and Weng and McElroy [45]. According to researchers, people may gain real-world experience and progressively increase their confidence to make professional decisions by practicing career management [46]. An individual's confidence and trust in their skills to choose and grow a job is known as career decision-making self-efficacy [47]. University students can gain a better understanding of their interests, skills, and values through self-assessment, career research, and goal planning. This increases their sense of control and

confidence while making professional decisions [48]. Setting defined professional objectives and improving one's capacity to handle obstacles in the workplace are two benefits of effective individual career management for college students [49]. Thus, college students may progressively raise their self-efficacy in making professional decisions and become more capable of handling a variety of possibilities and problems in the workplace by actively engaging in career development practices and activities.

The results showed that university students' employability was significantly enhanced by their self-efficacy in making career decisions. These are consistent with the findings of the study that was carried out by Wujema et al. [50] and Zhou et al. [28]. There is a significant positive relationship between university students' employability and their level of self-efficacy in making career decisions. There is a substantial and complex relationship between university students' self-efficacy in choosing career decisions and their employability. Self-efficacy in making professional decisions can support college students' processes of career planning and exploration. With higher self-efficacy, university students are more likely to carry out in-depth career studies and self-evaluations to better understand their beliefs, interests, and objectives in the workplace [51].

Additionally, it improves their self-assurance while making job decisions which will increase their employability [52]. Their self-efficacy may also impact a person's professional growth and employability in making career decisions. Studies reveal that college students with high self-efficacy are more likely to exhibit positive attitudes and self-assurance during the job search process which can improve their interview performance and adaptability to the ever-changing workplace [38]. Furthermore, the self-efficacy of career decision-making can encourage people to actively pursue different career development possibilities and consistently enhance their professional abilities and expertise through active learning and career development endeavors, thus enhancing their employability [53].

Moreover, the relationship between employability and individual career management is mediated by university students' self-efficacy in making professional decisions. Thus, employability may be positively impacted by individual career management through self-efficacy in making professional decisions. Self-efficacy in making professional decisions influences a person's capacity to manage their career which in turn influences their employability. People are more likely to actively participate in different stages of career management when they have inner confidence and belief which strengthens their competitiveness and increases their potential for success in the workplace [43].

University students actively engage in career planning to address their job challenges because they have a strong sense of self-efficacy to make professional decisions [54]. Stronger career management abilities on an individual basis may help students make more confident and self-assured decisions about their careers, which can pave the way for future employment and professional growth prospects [55]. A positive work attitude and professional drive are linked to individual career management. High levels of career motivation and positive attitudes can enhance a person's productivity and competitiveness at work [56]. As a result, those who have strong self-efficacy will focus more on the quality levels of their job [57]. University students' self-efficacy mediates the association between employability and self-care management in making career decisions. This finding emphasizes the interaction between people's internal beliefs and exterior behaviors in career development. People may successfully manage their careers, achieve their objectives, and flourish in the workplace through self-assessment, goal-setting and proactive activities.

5.1. Relevant Suggestions and Measures

The study's conclusions demonstrated that career management practices by college students had a favorable effect on their self-efficacy in making career decisions. Institutions should improve career development education to support university students' self-efficacy in making career decisions which will enhance their career management skills and, ultimately, their employability and career prospects. This entails using real-world opportunities and

resources together with methodical coaching and assistance to support students in developing their capacity for making professional decisions and successfully managing their career pathways. Similarly, setting up continuous evaluation and feedback systems is essential. Students may improve their career development plans and achieve their best in academic and professional endeavors by regularly reviewing their progress and needs in career decision-making and individual career management by receiving timely feedback.

Furthermore, the findings show that career management by university students improves employability. It is recommended that educational institutions provide a comprehensive career development curriculum that includes seminars, workshops, online resources, and courses. To enable students to comprehend and develop their professional pathways fully, these materials must consist of goal-setting, career discovery, self-assessment, and career decision-making. Additionally, it is critical to put university students' employment prospects and mental health first, putting in place prompt motivating strategies to spark their interest in their jobs. Similarly, it is critical to promote collaborations between corporations and educational institutions aggressively. Students may take advantage of a variety of internship and career training possibilities that will provide them with real-world knowledge and abilities through this partnership.

The results demonstrate that employability and career management are mediated by the self-efficacy of university students in making career decisions. University students should participate in career development education and personal career planning to set clear professional goals and create efficient growth plans. These educational activities set them up for success in their future careers. Students should also actively participate in practical experiences and internships since they offer a priceless opportunity to get real-world job experience and develop professional skills. Additionally, they should adopt the idea of managing their careers, gaining specialized information to increase their professional competence, and developing their educational skills. Similarly, creating hobbies outside of work, keeping one's mind well and improving one's employability are all essential for growth in the workplace.

5.2. Limitations and Future Research Directions

This study focuses on the relationship between employability and career management practices among college students as well as the mediating function of self-efficacy in professional decision-making. However, there are other factors that either directly or indirectly affect employability in addition to personal career management and self-efficacy in making professional decisions. Thus, it is advised that future researchers include more factors for the investigation to make the research findings on university students' employability more thorough.

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APPENDIX

Appendix A. The individual career self-management scale.

The following questions pertain to the measurement of your self-career management. Please select one answer based on your subjective judgment from the four options provided, and mark "√" in the corresponding box.

Item	Strongly disagree	Disagree	Agree	Strongly agree
1. I have developed a career development plan for myself.				
2. I have identified long-term career goals.				
3. I have formulated strategies to achieve my career goals.				
4. I have set short-term career development goals.				
5. I always try to explore new job opportunities.				
6. I always attempt to try different professions.				
7. I consistently seek to change job positions.				
8. I actively look for my ideal career.				
9. I focus on developing work-related skills.				
10. I often read professional magazines and books.				
11. I always set goals and achieve them.				
12. I focus on developing abilities related to my career goals.				
13. I have many people who help me when I seek advancement.				
14. I have established my own information channels.				
15. I consistently network with influential individuals in my organization.				
16. I always keep my superiors informed about my work achievements.				
17. I always communicate to my superiors the work I want to pursue.				
18. I always inform my superiors about my career goals.				

Appendix B. The employability scale.

The following questions pertain to the measurement of your employment competence. Please select one answer based on your subjective judgment from the five options provided, and mark "√" in the corresponding box.

Item	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
1. If the company were to downsize, I believe I would be among the employees retained.					
2. Interpersonal relationships within the organization contribute to the development of my career.					
3. I can recognize opportunities in the organization, even if they are unrelated to my current job.					
4. I am highly respected among colleagues who perform similar work within the organization.					
5. The skills I acquire from my current job can be transferred to other positions outside the organization.					
6. I have a strong capacity for retraining, which enhances my employability elsewhere.					
7. I can easily recognize opportunities outside the organization, even if they differ greatly from my current job.					
8. If necessary, I can easily obtain a similar job in a comparable organization.					
9. I can easily secure a similar job in almost any organization.					
10. There is a high demand from employers for individuals with my level of knowledge, skills, and work experience.					
11. I am able to obtain any job in any organization related to my skills and experience.					

Appendix C. The career decision self-efficacy scale.

The following questions pertain to the measurement of your self-efficacy in career decision-making. Please select one answer based on your subjective judgment from the five options provided, and mark "√" in the corresponding box.

Item	No confidence at all	Little confidence	Moderate confidence	High confidence	Complete confidence
1. Use the internet to find career information that interests you.					
2. Choose a major from those you are considering.					
3. Develop a plan for your goals over the next five years.					
4. Identify the steps to take in order to address learning difficulties in your chosen major.					
5. Accurately assess your own abilities.					
6. Choose a career from those you are considering.					
7. Determine the steps to take to successfully complete your studies.					
8. Persist in pursuing your major or career goals even when facing setbacks.					
9. Identify what your ideal job					

Item	No confidence at all	Little confidence	Moderate confidence	High confidence	Complete confidence
is.					
10. Investigate the employment trends for a particular profession over the next ten years.					
11. Choose a career that aligns with your desired lifestyle.					
12. Prepare a strong job application resume.					
13. Change majors if you are dissatisfied with your first choice.					
14. Know what you value most in a career.					
15. Research the average annual income of professionals in a specific occupation.					
16. Make career decisions without worrying about whether they are right or wrong.					
17. Change careers if you are unhappy with your chosen profession.					
18. Understand what you are willing to sacrifice and what you are unwilling to sacrifice to achieve your career goals.					
19. Communicate with individuals already working in your field of interest.					
20. Choose a job or career that aligns with your interests.					
21. Identify potential employers, companies, or institutions related to your desired career.					
22. Know what kind of lifestyle you want.					
23. Research admissions information for graduate schools or specialized institutions.					
24. Successfully navigate the job interview process.					
25. Determine reasonable alternatives when unable to secure your preferred major or career.					

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