A STUDY AND DEVELOPMENT OF CAREER PLANNING AMONG CHINESE UNIVERSITY STUDENTS THROUGH INTEGRATIVE GROUP COUNSELING

LIU YUQI

Graduate School Srinakharinwirot University

2024

การศึกษาและการพัฒนาการวางแผนทางอาชีพของนักศึกษาจีนโดยการให้คำปรึกษากลุ่มแบบบูรณาการ

LIU YUQI

ปริญญานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตร
การศึกษาดุษฎีบัณฑิต สาขาจิตวิทยาการศึกษาและการแนะแนว
คณะคณะศึกษาศาสตร์ มหาวิทยาลัยศรีนครินทรวิโรฒ
ปีการศึกษา 2567

A STUDY AND DEVELOPMENT OF CAREER PLANNING AMONG CHINESE UNIVERSITY STUDENTS THROUGH INTEGRATIVE GROUP COUNSELING

LIU YUQI

A Dissertation Submitted in Partial Fulfillment of the Requirements

for the Degree of DOCTOR OF EDUCATION

(Ed.D. (Educational Psychology and Guidance))

Faculty of Education, Srinakharinwirot University

2024

THE DISSERTATION TITLED

A STUDY AND DEVELOPMENT OF CAREER PLANNING AMONG CHINESE UNIVERSITY STUDENTS THROUGH INTEGRATIVE GROUP COUNSELING

BY

LIU YUQI

HAS BEEN APPROVED BY THE GRADUATE SCHOOL IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DOCTOR OF EDUCATION IN ED.D. (EDUCATIONAL PSYCHOLOGY AND GUIDANCE)
AT SRINAKHARINWIROT UNIVERSITY

(Assoc. Prof. Dr. Chatchai Ekpanyaskul, MD.)
Dean of Graduate School

ORAL DEFENSE COMMITTEE

..... Advisor
(Associate Professor Dr. Patcharaporn Srisawat)

..... Co-Advisor
(Associate Professor Dr. Skol Voracharoensri)

Chairperson
(Associate Professor Dr Ujsara Prasertsin)

..... Committee
(Associate Professor Dr Monthira Jarupeng)

..... Committee
(Lecturer Dr Kanchit Saenubol)

Title	A STUDY AND DEVELOPMENT OF CAREER PLANNING AMONG CHINESE UNIVERSITY STUDENTS THROUGH INTEGRATIVE GROUP COUNSELING
Author	LIU YUQI
Degree	DOCTOR OF EDUCATION
Academic Year	2024
Advisor	Associate Professor Dr. Patcharaporn Srisawat
Co-Advisor	Associate Professor Dr. Skol Voracharoensri

This study aims to: 1) investigate the structural components of career planning among Chinese university students and develop a localized career planning scale tailored to this population; and 2) design an integrative group counseling program to enhance students' career planning competencies. A mixed-methods approach was employed, comprising two sequential phases. Phase 1: A total of 400 valid responses were collected using proportionate stratified random sampling. Based on empirical data analysis, six key dimensions of career planning were identified. The developed Career Planning Scale for Chinese University Students demonstrated strong reliability (Cronbach's alpha=0.96) and good model fit, validating the structural integrity of the measurement model. Results revealed that the overall level of career planning among participants was moderate (M=3.48, SD=0.58). Phase 2: This phase includes quantitative analysis and qualitative analysis. The research randomly assigned twenty students to an experimental group (n=10) and a control group (n=10). Participants in the experimental group underwent an 8-session integrative group counseling intervention. After intervention, methods such as descriptive statistical analysis, repeated Multivariate Analysis of Variance (MANOVA) were employed. Post-test and follow-up results showed significant improvement in the experimental group across all career planning dimensions ($p < 0.001$). No significant changes were observed in the control group. This indicates that integrative group counseling effectively enhances students' internal career planning abilities. These findings support the utility of group counseling as a practical intervention for strengthening university students' career development.

Keywords: career planning,integrative group counseling,Chinese university students,self-cognition

ACKNOWLEDGEMENTS

I would like to express my deepest gratitude to all those who have contributed to the completion of this research. First and foremost, I am profoundly grateful to my advisor, Assoc. Prof. Dr. Patcharaporn Srisawat, for her invaluable guidance, insightful feedback, and unwavering support throughout this project. My deepest thanks also go to my co-advisor, Assoc. Prof. Dr. Skol Voracharoensri, for his guidance and expertise throughout my doctoral journey. Their expertise and encouragement have been instrumental in shaping this study, and their strict requirements and meticulous spirit will be my model in my future work and study.

I would also like to extend my sincere thanks to my committee members, for their constructive suggestions and thoughtful critiques, which greatly improved the quality of this research.

I am deeply indebted to my family, for their endless love, patience, and encouragement during this challenging yet rewarding journey. My appreciation goes to my friends, for their stimulating discussions, collaboration, and moral support.

Special thanks to Mi Wenting for her assistance in study. I am very fortunate to have met so many good people, and I will never forget the kindness of my friends.

My last tribute is to those who know I am not perfect but still love me.

LIU YUQI

TABLE OF CONTENTS

Page

LIST OF TABLES

Page

LIST OF FIGURES

Page

CHAPTER 1
INTRODUCTION

1.1 Research Background

In the era of globalization and the knowledge economy, the rapid expansion of China's higher education system has profoundly impacted the graduate employment market. The continuous increase in the number of university graduates has further intensified structural contradictions between higher education output and labor market demand, resulting in an increasingly severe employment situation (Li, 2023). According to official statistics from the Ministry of Education of China, the number of university graduates rose from 9.09 million in 2021 to 11.58 million in 2023, and this upward trend is expected to continue in the foreseeable future. At the same time, the deceleration of China's economic growth has placed additional constraints on employment creation (National Bureau of Statistics of China, 2023). In June 2023, the unemployment rate among individuals aged 16 to 24 reached 21.3%, with nearly 20 million unemployed youth, marking a historic high. Notably, the unemployment rate among university graduates was approximately 28%, which is 1.3 times higher than the general youth unemployment rate, indicating that over 3.24 million graduates encountered significant difficulties in securing employment (National Bureau of Statistics of China, 2023).

Examining the root causes of this phenomenon from multiple dimensions reveals a complex network of interrelated factors, including economic structural transformation, shifts in social demand, and the limited adaptability of the higher education system (Zhao, 2022). Among these, a prominent issue lies in the misalignment between the allocation of educational resources, the design of academic programs, and actual labor market needs during the classification and expansion of higher education(Li, 2024). According to the Statistical Bulletin of Education Development in China (2024), the number of college graduates nationwide reached 11.79 million-an increase of 210,000 from the previous year-further intensifying the employment pressure for new graduates. In this context, many university students experience confusion, uncertainty, and

psychological stress as they attempt to navigate career decisions without adequate knowledge or planning. This phenomenon reflects a widespread lack of career planning ability among current students, underscoring the urgent need to strengthen career development education within higher education institutions.

Career planning plays a critical role in bridging the gap between education and employment. It serves not only as a tool for individual self-direction but also as a developmental process that enables individuals to clarify goals, enhance adaptability, and make informed decisions about their future paths(Super, 1980; Ginzberg et al., 1951). Research has shown that well-developed career planning ability is significantly correlated with employment outcomes, job satisfaction, and long-term career sustainability(Savickas, 2005; Greenhaus & Callanan, 2006). As such, career planning should be regarded not as a one-time decision, but as an ongoing, dynamic process that supports lifelong development(Krumboltz, 1976).

Career development is a long-term and lifelong process through which individuals continuously make choices, adjustments, decisions, and actions based on their ideals, competencies, and evolving developmental tasks at different life stages(Super, 1980; Savickas, 2005). Therefore, from both academic and practical perspectives, conducting in-depth research on the current status, influencing factors, and effective strategies for enhancing career planning abilities among university students is of great significance for improving the quality of higher education and optimizing national human resource allocation(Lent, Brown, & Hackett, 1994). In terms of structure, career planning can be divided into six core dimensions: self-cognition, social cognition, career cognition, career decision-making, plan of career, and career implementation (Ginzberg et al., 1951; Tiedeman, 1963). These dimensions form an integrated framework that serves as the theoretical foundation of the present study.

In recent years, there has been an increasing discussion about issues related to college students' employment and career choices, as well as standards for their success. Since the expansion of higher education in China in 1999, while the increase in higher education enrollment has promoted national quality and economic development,

it has also led to issues such as employment difficulties (Yang, 2010; Ministry of Education of the People's Republic of China, 2022). With the development of the economy and advancements in science and technology, social division of labor has become more specialized and refined, making career choices for university students increasingly complex and diverse(Zhao, 2022). College students are increasingly pursuing diversified career choices, which has not only attracted widespread social attention but also placed new demands on higher education, particularly on the career planning abilities of students(Li, 2020).

Influenced by social and cultural factors, students' career standards have shifted; they are no longer solely focused on high salaries but are more inclined to make diversified choices based on their characteristics and interests (Long, 2002). Career choices made after university have a significant impact on an individual's entire life; thus,developing career planning abilities during university is crucial for helping students better address career choice and adjustment issues in employment. However, currently, university students' career planning abilities are notably insufficient, affecting their effective job selection and smooth employment, and having negative effects on their future career development(Zhang, 2017).

To address this issue, Chinese universities have placed high importance on cultivating students' career planning abilities. The Ministry of Education of China issued a notice requiring all ordinary universities to include career development guidance courses in their teaching plans and to enhance the training and development of students' career planning abilities(Ministry of Education of the PRC, 2007). However, a review of current research on career planning for Chinese university students reveals that studies in this field are still predominantly theoretical and qualitative, with relatively weak empirical and quantitative research. There are also issues such as vague cultivation objectives and singular methods, leading to insufficient effectiveness of career education (Xia, 2018). Therefore, future research should strengthen empirical and quantitative studies to scientifically assess and improve career planning abilities among university students, laying a solid foundation for their future career development(Chen & Liu, 2019).

In examining the current status of career-planning ability development among Chinese university students, it is evident that-despite growing attention-there remains a sizable gap between students' needs and the pace of social and economic change (Zhao, 2022; Ministry of Education of the PRC, 2023). On one hand, a persistent misalignment exists between higher-education talent-cultivation goals and labour-market demands: teaching arrangements, program offerings, and instructional methods often diverge from current employment realities (Li & Chen, 2021; National Bureau of Statistics of China, 2024). On the other hand, students' recognition of, and engagement in, career-planning development remain weak (Yang, 2010). Although many universities have established employment-guidance centres, systematic guidance and service planning are still insufficient, and most students lack proactive strategies for enhancing their career-planning abilities, resulting in limited self-efficacy and low participation (Xia, 2018; Zhang, 2021). Moreover, the shortage of qualified professionals capable of providing comprehensive, evidence-based career counseling further restricts program effectiveness (Liu, 2019). From the dual perspective of student growth and national talent needs, it is therefore essential to stimulate students' intrinsic motivation, cultivate appropriate values, and mobilize their initiative to achieve substantial improvement in career-planning competencies (Savickas, 2005; Lent, Brown, & Hackett, 1994).

In the context of higher education, career planning plays a pivotal role not only in shaping individual students' future development but also in influencing the broader trajectory of national and societal progress. As a strategic blueprint for personal growth, career planning education adopts a human-centered approach that emphasizes holistic development. It guides students in clarifying their life direction, setting both realistic and aspirational career goals, and cultivating intrinsic motivation for learning and exploration (Super, 1980; Savickas, 2005). Through well-structured and systematic educational interventions, students are better equipped to respond to the evolving demands of a dynamic labor market, demonstrating adaptability, critical insight, and resilience in the face of societal change (Krumboltz, 1976). Furthermore, effective career planning can mitigate the confusion and psychological distress that often arise from impulsive choices

or limited self-awareness. By promoting scientific and reflective decision-making processes, such education helps reduce errors caused by information asymmetry and fosters more stable, satisfying career outcomes (Ginzberg et al., 1951; Lent, Brown, & Hackett, 1994).

Career planning education plays an irreplaceable role in shaping students' comprehensive qualities and core competencies. By engaging in structured career-planning activities, students learn essential skills of self-assessment, goal-setting, and strategic decision-making, thereby laying a solid foundation for lifelong career development (Super, 1980; Savickas, 2005). Such training also fosters adaptability and resilience-qualities that are critical in an increasingly competitive global economy (Krumboltz, 2009). Importantly, career-planning curricula emphasize not only technical proficiency but also ethical values and social responsibility, helping students integrate more quickly into society, reduce employment confusion, and navigate rapid labour-market changes (Lent, Brown, & Hackett, 1994). Consequently, accurate career positioning and the cultivation of robust planning abilities during the university years exert a decisive influence on students' long-term professional trajectories (Ginzberg, Ginsburg, Axelrad, & Herma, 1951).

In the international arena, commonly used scales in the field of career planning include the Vocational Values Questionnaire, the Career Decision-Making Self-Efficacy Scale (CDMSE; Betz, Klein, & Taylor, 1996), the Career Adaptability Scale (CAA; Savickas & Porfeli, 2012), the Myers–Briggs Type Indicator (MBTI; Myers, 1987), the Hollander Occupational Interest Inventory (Hollander, 1959; Myers & McCaulley, 1985), the Career Planning Scale (proposed by John Liptak, 2008), the Minnesota Importance Questionnaire (MIQ), the Occupational Values Inventory (OVI; Gordon), and the Work Values Inventory (WVI; Super). These scales primarily focus on measuring career interests and values (e.g., Super, 1957; Roe, 1956).

In China, career planning courses typically rely on imported instruments such as the Self-Directed Search, the Myers–Briggs Type Indicator (MBTI), and various career-values inventories (Ning, 2014). Although these tools help gauge students'

interests and values, they often fail to capture the unique cultural context and developmental characteristics of Chinese university students (Fan & Chen, 2010; Zhang, 2018). Consequently, there is an urgent need for a career-planning scale that is both psychometrically sound and culturally relevant to China's higher-education environment (Liu & Peng, 2019). To address this gap, the present study proposes the development of a localized Career Planning Scale for Chinese University Students. The new scale will target six empirically grounded dimensions-self-cognition, social cognition, career cognition, career decision-making, career planning, and career implementation-identified in prior career-development research (Ginzberg et al., 1951; Savickas, 2005). By combining rigorous scale-development procedures with large-sample validation, the project seeks to provide (1) a comprehensive assessment of Chinese students' career-planning status and (2) actionable data for universities to refine curricula, guidance services, and intervention strategies. In doing so, the study aims to fill a critical measurement gap and supply robust empirical evidence for optimizing career-planning education in China.

In career guidance practice in China, collective lectures remain the predominant method. Although this approach enjoys a certain level of popularity due to its efficiency and accessibility, it often lacks depth, personalization, and interactive engagement (Zhang, 2018). To address these limitations and enhance the effectiveness of career planning education, group counseling has emerged as a promising alternative. As an intervention strategy, group counseling provides structured psychological support in a group setting, fostering shared experiences, mutual feedback, and peer learning (Li, 2020). It is also referred to as group therapy or collective counseling and is well-supported by both theoretical underpinnings and empirical validation (Joseph, 1920; Corey, 2016).

In recent years, group counseling has seen broad application in educational institutions, psychological services, and student development programs. It has become a vital force in advancing educational innovation and reform (Yalom & Leszcz, 2005). Within the realm of career education, the traditional lecture-based model is increasingly

seen as inadequate for addressing the multifaceted needs of students. Given the psychological commonalities among university students and the prevalent uncertainty surrounding career decision-making, group counseling-with its structured format, peer interaction, and emotionally supportive environment-has emerged as a highly effective approach in career education (Yalom & Leszcz, 2005; Corey, 2016).

Integrative group counseling-drawing on cognitive-behavioral, narrative, and humanistic principles-offers a flexible, holistic, and context-responsive intervention that aligns well with the developmental and psychological needs of Chinese university students (Wu, 1995; Li, 2020). Programs explicitly grounded in Career Construction Theory further enhance this model by providing dynamic, student-centered experiences that promote engagement, self-reflection, and goal-setting, thereby strengthening both self-awareness and career decision-making skills (Savickas, 2005; Wu, 1995). This integrative model incorporates elements of cognitive-behavioral theory, career construction theory (Savickas, 2005), and developmental psychology, enabling counselors to assist students not only in enhancing self-awareness but also in forming realistic and adaptive career goals. Through structured yet dynamic group experiences, participants engage in self-reflection, peer feedback, and goal clarification-core components of effective career planning (Brown & Lent, 2013; Krumboltz, 2009).

Despite its growing relevance, the empirical exploration of integrative group counseling in the context of Chinese higher education remains limited. Most existing studies focus on general psychological outcomes rather than career-specific competencies. As such, it is both necessary and timely to conduct systematic, data-driven research to evaluate the effectiveness of integrative group counseling in enhancing career planning ability among Chinese university students. This study seeks to address this research gap by offering both theoretical insights and practical strategies for improving career education practices within Chinese universities.

Summary, Given the current absence of a standardized and empirically validated instrument for assessing career planning among Chinese university students-and the scarcity of research integrating group counseling with career-planning

interventions-this study aims to examine the effectiveness of integrative group counseling in enhancing students' career planning competencies. By generating both empirical evidence and practical insights, the research seeks to advance theoretical frameworks and inform the implementation of evidence-based practices in higher education. Ultimately, the findings are expected to contribute meaningfully to the academic understanding and practical development of career planning education and counseling strategies, thereby supporting the broader objective of cultivating more career-ready, self-directed, and adaptive university graduates in China.

1.2 Research Questions

1.2.1 What are the components of career planning among Chinese university students?

1.2.2 Does the constructed career planning measurement model demonstrate good fit and consistency with empirical data?

1.2.3 How can integrative group counseling be developed to enhance the career planning abilities of Chinese university students?

1.2.4 Can Chinese university students who receive integrative group counseling show higher career-planning scores than a control group during pre-test, post-test, and follow-up periods?

1.3 Objectives of the Research

The research is divided into two stages:

1.3.1 Phase 1: Quantitative and Qualitative

1) To study the components of career planning of Chinese college students.

2) To study the model for measuring career planning to exhibit consistency with empirical data.

1.3.2 Phase 2: Quasi-Experimental

1) To develop the integrative group counseling enhancing career planning of Chinese college students.

2) To compare planning score, through integrative group counseling, experimental group for Chinese college students during 3 periods:pre-test, post-test and follow-up.

3) To compare career planning scores, through integrative group counseling between the experimental group and the control group during 3 periods: pre-test, post-test and follow-up.

1.4 Significance of the Research

1.4.1 Provide standardized measurement tools: This study developed the "China University Students Career Planning Scale" to offer a standardized tool for scientific assessment and quantitative analysis. This enables scientific quantification and systematic analysis of the current status in this field. The results from the questionnaire help students enhance self-cognition, clarify career goals, and develop a scientific career plan, thus promoting personal growth and development. Universities and educational institutions can obtain objective data to guide the formulation and optimization of personalized career planning education programs, contributing to the advancement and improvement of career planning education for students.

1.4.2 Build a bridge between theory and practice: This study aims to explore the specific application and effects of integrative group counseling in enhancing university students' career planning abilities, thereby filling the gap between theory and practice in this field. Through empirical research, the effectiveness of group counseling as an intervention method can be verified, providing scientific evidence and practical guidance for career planning education, promoting a deeper integration of theory and practice, and contributing new knowledge and theoretical support for the refinement and development of career planning theories.

1.4.3 Deepen understanding of the relationships between influencing factors: The study further explores the relationships between various influencing factors and how they collectively impact students' career planning abilities. This in-depth analysis helps reveal the complex composition of career planning abilities and the mechanisms of

interaction between different factors, contributing to the development of a more comprehensive theoretical framework for career planning.

1.4.4 Enrich career education models: The study examines the specific impact of integrative group counseling on career planning abilities and assesses the significance of its enhancement effects. This empirical research method not only enriches the practical strategies of career planning education but also provides scientific evidence for universities and educational institutions, aiding in the promotion of diverse development in career education models.

1.5 Scope of the Research

Phase 1: Population and Sample

A questionnaire survey method will be used to select undergraduate students from the third and fourth years at Yunnan Arts University in China as research subjects to investigate their career planning. The study will analyze the current status of career planning, existing problems, and potential causes.

Yunnan Arts University is a full-time general higher education institution in the arts, approved by the Ministry of Education of the People's Republic of China and organized by the People's Government of Yunnan Province. This study plans to include 4,060 students from the third and fourth years of undergraduate programs, primarily due to their intense job-seeking motivations at this stage of their academic journey. To ensure the comprehensiveness and depth of the results, the study will adopt a mixed-methods design that integrates both qualitative and quantitative research approaches.

First, a qualitative method will be used, focus group interviews. Five students with distinctive and representative characteristics in career planning will be selected for interviews.

In the quantitative research phase, proportionate stratified sampling will be applied. The research subjects are undergraduate students from the third and fourth years at Yunnan Arts University, covering students from the College of Music, College of Fine Arts, College of Design, College of Drama, College of Dance, College of Film and

Television, and College of Arts Management, totaling 4,060 students. Using Taro-Yamane's sample size calculation formula and setting the acceptable error range (e) at 0.05 to ensure accuracy and reliability, the estimated sample size is approximately 364. Considering potential sample loss, missing data, errors, or other unforeseen factors, the study adopts a conservative approach by expanding the sample size to 400. This sample size represents 9.85% of the total student population. In the specific execution phase of sampling, this study employed a simple random sampling method. Based on the previously established sample ratio of 9.85%, we randomly selected 400 students as the research sample, proportionate to the number of students in each college.

Phase 2: Quasi-experimental

Based on the data collected in the first phase, 20 students with significantly low score in career planning scale will be precisely selected as participants. Subsequently, following the principle of randomization, an unbiased allocation method will be used to evenly distribute these students into the experimental group and the control group, each consisting of 10 students. This distribution aims to ensure the reliability and comparability of subsequent experimental results. Group counseling activities will be conducted with the students in the experimental group.

1.6 Variables

Phase 1

Independent Variables:

Career Planing

- self-cognition
- social cognition
- career cognition
- Career Decision-Making
- Plan to Career
- Career Implementation

Phase 2

Independent Variables:

- Integrative Group Counseling

Dependent Variable:

- Career Planning

1.7 Definition of Terms

1.7.1 Career Planning refers to a systematic process that requires individuals to thoroughly analyze their personal conditions and external environmental factors, set clear career goals, and develop a series of actionable plans and decision-making strategies to achieve these goals. This process must consider multiple dimensions, including personal interests, strengths, values, and the actual needs of the job market.

1) Self-cognition refers to an individual's in-depth understanding of personal traits closely related to career activities, including but not limited to personal interests, core values, and professional skills. This self-insight provides a fundamental basis for self-positioning in career planning.

2) Social cognition refers to an individual's profound understanding of the social environment, career environment, and relevant national policies and regulations. This knowledge helps individuals better grasp external opportunities, avoid potential risks, and make more informed career choices.

3) Career cognition refers to a comprehensive understanding of various aspects of occupations, including the industry field to which the occupation belongs, the overall status of the industry, and specific details such as salary systems, entry standards, and core job content. This knowledge provides individuals with a clear occupational profile and helps them make more accurate career positioning.

4) Career Decision-Making refers to the critical process in career planning, involving the selection of suitable career types, industries, specific positions, and planning future career development directions. Effective career decision-making requires comprehensive self-cognition and social cognition.

5) Plan of Career refers to the act of planning one's career. It involves setting specific career goals based on personal interests, abilities, and market demands.

6) Career Implementation refers to the process of converting the career planning into actual career actions through specific steps, and gradually achieving personal career goals through continuous practice and adjustment.

1.7.2 Integrative Group Counseling refers to a structured psychological intervention that utilizes group interaction and peer support to promote participants' self-awareness, emotional regulation, and career decision-making. It integrates multiple theoretical approaches to address diverse developmental needs. The model adopted in this research consists of eight sessions divided into three stages:

1) Initial stage (Sessions 1-2), employing person-centered and psychoanalytic techniques to create a safe group atmosphere and facilitate initial self-reflection;

2) Working stage (Sessions 3-6), applying cognitive-behavioral therapy (CBT), rational emotive behavior therapy (REBT), and narrative techniques to correct irrational beliefs and strengthen problem-solving skills;

3) Ending stage (Sessions 7-8), incorporating career construction theory and solution-focused strategies to support participants in formulating realistic career goals and implementation plans.

1.7.3 Chinese University Students, in this study, refers to undergraduate students in their third and fourth years at Yunnan Arts University in China, distributed across various majors.

CHAPTER 2
REVIEW OF THE LITERATURE

This chapter systematically reviews the relevant theories and research on career development and career planning, exploring the definition, importance, process, and current research status of career planning for college students. It delves into the application of person-job fit theory in career planning and focuses on analyzing the practical and research progress of group counseling in enhancing college students' career planning abilities. Through this chapter, we aim to provide valuable references and theoretical support for the research, further advancing its successful development.

2.5 Research Hypotheses

2.1. Career

2.1.1 Definition of career

In general terms, a career is the sequence of jobs and roles that an individual has throughout their life. The term "career" originally comes from the Latin word "carrus," meaning chariot. The Oxford English Dictionary defines "career" as the course or progress of an individual's life, or a particular part of their life, linking career to various aspects of personal life, learning, and work. Organizational behavior scholars define a career as the work-related or other relevant experiences of an individual, both within and outside of organizations, which form a unique pattern throughout their life. The "Modern Labor Relations Dictionary" in China defines a career as all the experiences an individual has while engaging in professional activities throughout their life. Eli Ginzberg (1911-2002), a renowned career guidance expert and representative of career development theory, views career development as a lifelong and continuous process.

In defining careers, Super (1957) proposed a widely influential view, suggesting that a career encompasses all the positions an individual holds throughout their life. Super further divided the career into five distinct stages: the career exploration stage, career establishment stage, career growth stage, career maintenance stage, and career decline stage (Super, 1953). American scholars Rothwell and Sredl (1992) emphasized that a career is the organic combination of an individual's work-related behaviors, activities, attitudes, values, and visions throughout their life. Webster (1986) took a broader perspective, defining a career as the sum of an individual's professional, social, and interpersonal relationships over their lifetime, representing their entire work development process. Hall (1976), an organizational behavior scholar, defined a career as the series of activities and behaviors that an individual engages in during their working life. In contrast, McFarland (1969) proposed a more individualized view, describing a career as a series of autonomous choices or related educational and training activities formed based on the individual's goals; a career is a planned

development process that encompasses all of an individual's work experiences over their lifetime.

From these viewpoints, it is evident that a career is an evolving and continuous process throughout an individual's life, involving their attitudes, values, and aspirations (Greenhaus & Callanan, 1994). Despite the varied definitions provided by different scholars, common elements can be identified: first, a career is an individual's behavior and experiences, with less emphasis on relationships with organizations or groups; second, a career centers on work, specifically the individual's work experience; and third, a career is a developing process, following a chronological sequence, where the individual continuously develops and grows through work. Although not all individuals maintain a single career throughout their lives, they continuously explore to find the most suitable job. For someone entering the workforce, work is not only a means of livelihood but also a path to personal growth (Savickas, 2005).

2.1.2 Classification of Career

In terms of classifying career types, the division proposed by American scholar Edgar H. Schein (1978) into internal and external careers is widely recognized in academic circles.

Internal Career refers to the subjective experiences necessary for an individual engaged in a particular profession. It encompasses aspects such as values, knowledge accumulation, and psychological qualities. Internal career is a comprehensive reflection of the social status or rewards earned by an individual based on their inner qualities. The attainment of an internal career primarily depends on the individual's efforts and is less influenced by external factors, thus possessing relative stability and being less susceptible to being easily taken away or revoked by others (Schein, 1978).

External Career on the other hand, refers to the objective experiences within the individual's environment, including various external factors associated with the job, such as work environment, job position, salary, promotion channels, and speed. It constitutes the objective process of a career (Schein, 1978).

From this, it is evident that the internal career focuses more on the individual's internal emotions and experiences, while the external career emphasizes objective material conditions. Additionally, the development of an external career is premised on the development of the internal career, with both influencing and complementing each other (Schein, 1978).

In this study, the key issue being addressed is the cultivation of career planning abilities. Therefore, the focus is more on exploring and conducting in-depth research from the perspective of the internal career.

2.1.3 Theories Related to Career Development

1) Career Development Theory

In the 1970s, eminent scholars such as Eli Ginzberg (1911-2002) and Donald E. Super (1910-1994) proposed that human development is a continuous process and emphasized the profound impact of different stages of individual development on career choices. This viewpoint laid a solid foundation for the gradual formation and refinement of career development theories (Ginzberg, 1970; Super, 1970). The core points of career development theory are as follows: Career development and choice are viewed as continuous, long-term processes. Individuals form preliminary views and attitudes toward career choices during childhood. Career choices evolve with changes in age, education, and family, among other external factors. Human careers can be divided into several sequential stages, each with unique characteristics, and the completion of each stage significantly impacts the career development of the next stage. The central task of career guidance is to enhance individuals' understanding and awareness of career choices (Super, 1957; Ginzberg et al., 1951).

In the field of career development theory research abroad, a series of influential theories have emerged. These include Super's Career Development Theory, Eli Ginzberg's Career Development Stages Theory, Greenhouse's Career Development Theory, the Career Development Stages Model proposed by Dalton and Tompson (1986), Social Cognitive Career Theory, and Career Development Chaos Theory. Among these, stage-based career development theories undoubtedly hold a critical position,

providing significant theoretical support for career research (Dalton & Tompson, 1986; Lent et al., 2000; Savickas, 1997).

Ginzberg's Career Development Theory

Eli Ginzberg (1951) posits that careers are a continuous and long-term development process in an individual's life, divided into three stages: the Fantasy Stage (before age 11), the Tentative Stage (ages 11 to 17), and the Realistic Stage (from age 17 to adulthood). The seeds of career choice begin in childhood, and as age, experience, and education evolve, an individual's career choices exhibit different characteristics. Each stage of career development has distinct features and tasks. Successfully completing the tasks of each stage achieves the corresponding goals; if the tasks of the previous stage are not well completed, it can affect career maturity in subsequent stages, ultimately leading to obstacles in career choices.

Super's Career Development Theory

Super's life-span, life-space theory conceptualises career as a holistic aggregation of paid and unpaid roles that evolve across the entire life cycle (Super, 1953, 1980). Anchored in differential psychology, self-concept theory, and developmental principles, the model delineates five sequential stages-growth (birth – 14 yrs), exploration (15 – 24 yrs), establishment (25 – 44 yrs), maintenance (45 – 65 yrs) and decline (65 yrs +). Each stage is characterised by distinctive vocational tasks. During growth, individuals develop basic capacities, and fantasised occupational images; the exploration stage involves crystallising self-concepts, tentative goal-setting, and real-world trial behaviours; establishment is marked by entry, skill refinement and organisational advancement; maintenance emphasises stabilisation and continual adjustment; finally, the decline stage requires disengagement and adaptation to post-work roles. The theory therefore, frames career development as a dynamic, lifelong process in which self-concept is progressively implemented through successive role transitions (Super, 1957).

Complementing Super's chronological perspective, Schein's career-stage model integrates age, organisational tenure, and role centrality to describe nine

overlapping developmental phases that span the entire working life (Schein, 1978, 1990). The model commences with a growth-fantasy-exploration phase (0 – 21 yrs), progresses through periods of organisational entry, basic training, early career full membership, and mid-career consolidation, and culminates in late-career mentoring, disengagement, and retirement. At each phase, individuals face age-linked psychosocial tasks-such as securing organisational membership, balancing autonomy with institutional constraints, sustaining technical relevance, or redefining identity after role exit. Schein emphasises that progression is not strictly linear; rather, stages may overlap as career priorities shift with changing personal values, organisational demands, and socio-economic contexts. This stage typology thus highlights the reciprocal influence of individual motivation, competency development, and organisational structure on career trajectories.

By juxtaposing Super's developmental sequence with Schein's organisationally embedded stages, scholars gain a nuanced understanding of how personal growth and workplace ecology jointly sculpt career paths across the life course.

Greenhouse's Career Development Theory

Greenhaus (Greenhouse) divides his career into five stages: the beginning of his organization, the middle, and late stages of his career, thus forming his career development theory.

Career preparation stage (0-18 years old): The main tasks at this stage are to develop the career imagination, form the ability to evaluate and choose careers, and receive the necessary vocational education.

Entering the organizational stage (18-25 years old): The main task of people at this stage is to try to choose a suitable and satisfactory career on the basis of obtaining and analyzing career information.

Early stage of career (25-40 years old): The main task of people at this stage is to learn professional skills, improve professional ability, learn and be familiar with professional norms, and gradually adapt to professional work and professional organization.

Mid-career (40-55): The main task of people at this stage is to examine and re-evaluate their career, strengthen or change their career ideals, and continue to invest time and energy in their chosen career for career development and success.

Later career stage (55 until retirement): At this stage, people strive to maintain their career achievements, maintain their career and personal dignity, and prepare to draw a perfect end to their career.

2) Self-efficacy in making Career Decision-Making

Career Decision-Making efficiency (career decision-making self), also known as career efficacy, career decision self-efficacy, Career Decision-Making self-efficacy theory from class (1977, Bandura) self-efficacy theory, by Bates and Hackett Hackett, Betz (1981) first introduced Career Decision-Making self-efficacy, the Career Decision-Making self-efficacy as individual have confidence in their chosen professional, and applied to the Career Decision-Making.

Lent and Hackett (1987) also defined it as "a series of individual behavioral performance judgments related to career choice and adjustment"; and in 1997, they further detailed it as "individual beliefs in career-related behaviors, education, and the practice and persistence of their choices". Occupational self-efficacy refers to the confidence or belief in people's own ability produced by the judgment and evaluation of their professional behavior ability. It refers to an individual's understanding of the work and work in a certain professional field, or the confidence and belief in achieving the purpose of professional activities.

According to the research objects of occupational psychology, there are two different definitions of self-efficacy in occupational decision-making: Self-efficacy related to work content, refers to the belief of the ability to perform the relevant content (such as the work required by education or post); self-efficacy in the process of professional activities refers to the confidence in the process of professional activities and achieve the purpose of professional activities.

Previous research results show that there are significant differences in their participation, investment, firmness and goal achievement in their Career Decision-

Makings. Efficient and capable people have a more accurate understanding of their own career, and also have a higher pursuit of career development.

Based on Crites's career maturity theory (Crites, 1973), Taylor and Betz developed the Career Decision-Making Effectiveness Questionnaire (CDMSE) in 1983. The questionnaire consists of five aspects: self-evaluation, information collection, target screening, career planning, and problem solving. A total of 50 items, with 10 items for each dimension, were scored in 10 divided units. In 0 to 9 units, the level is represented, the higher the score, the stronger the confidence. The results show that this questionnaire has good reliability and validity, and is a good measurement tool. In 1996, Beez et al. revised the CDMSE to reduce the title to 25 questions. Solberg created the scale in 1994, which studied 35 questions and examined participants' confidence in different positions. In 1996, Bates, Bogen, and others developed a "skill confidence" measurement system designed by Holland to measure self-efficacy in performing tasks at work.

In recent years, Chinese scholars have conducted a lot of research and made a preliminary discussion on it. Peng(2021) and Long(2001) referred to the CDMSE theory and developed the Scale of Self-efficacy of College Students through an interview and a questionnaire. The test results showed that the self-compiled questionnaire had 39 questions, 5 dimensions, high reliability and high discriminatory validity. In general, CDMSE is a more authoritative and representative questionnaire in the world.

3) Social Cognitive Career Theory (SCCT)

In the 1970s, prominent scholars such as Eli Ginzberg (1951) and Donald E. Super (1980) proposed that human development is a continuous process and emphasized the need to focus on the profound impact of different developmental stages on career choices. This forward-thinking perspective laid a solid theoretical foundation for the gradual formation and refinement of career development theories (Ginzberg, 1951; Super, 1980).

The core points of career development theory can be summarized as follows: Firstly, career development and choice are viewed as a continuous, long-term process rather than static, isolated events (Super, 1980). Secondly, job seekers form

initial views and attitudes towards career choices during childhood. These early experiences and cognitions significantly influence subsequent career choices (Ginzberg et al., 1951). Moreover, career choices evolve with changes in age, education, family, and other external factors, exhibiting dynamic and variable characteristics. Furthermore, human careers can be divided into several sequential stages, each with unique characteristics and tasks, and the completion of each stage significantly affects career development in subsequent stages (Super, 1957). Finally, the core task of career guidance is to enhance job seekers' understanding and awareness of career choices, helping them make more informed and suitable career decisions (Ginzberg et al., 1951).

In the field of career development theory research, several influential theories have emerged. These include Super's Career Development Theory, Eli Ginzberg's Career Development Stages Theory, Greenhouse's Career Development Theory, the Career Development Stages Model proposed by Dalton and Tompson (1986), Social Cognitive Career Theory (SCCT), and Career Development Chaos Theory. Among these, stage-based career development theories hold a crucial position, providing significant theoretical support and research directions for career studies (Dalton & Tompson, 1986; Lent et al., 2000; Savickas, 1997). These theories not only deepen our understanding of career development but also offer robust theoretical support for career guidance and planning.

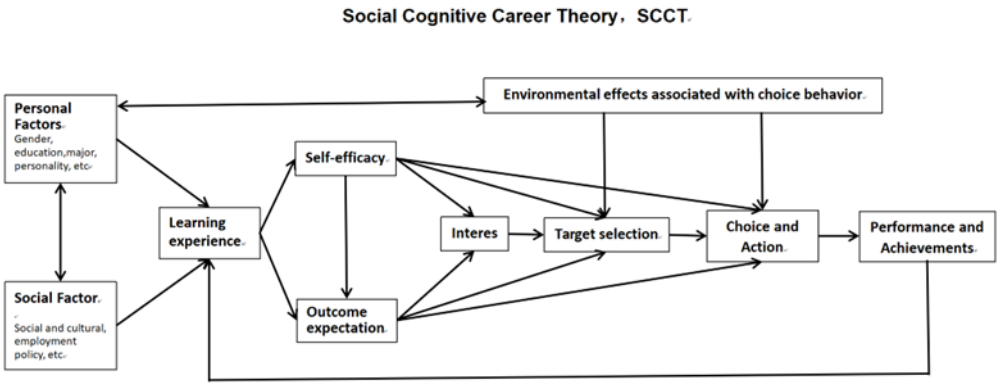


Figure 1 Social Cognitive Career Theory, SCCT

The Model of Career Self-Management is adapted from the seminal work “Toward a Unifying Social-Cognitive Theory of Career and Academic Interest, Choice, and Performance” by Lent, Brown, and Hackett (1994), published in the Journal of Vocational Behavior (Vol. 45, p. 93). This model integrates cognitive, behavioral, and contextual factors to explain how individuals form, pursue, and adjust their career goals over time. It emphasizes the dynamic interplay among self-efficacy beliefs, outcome expectations, personal goals, and contextual influences in shaping career development processes. The framework has become a foundational component of Social Cognitive Career Theory (SCCT), offering a comprehensive perspective on career self-regulation, adaptability, and decision-making

As you can see from the model, the SCCT model contains three interrelated submodels - career interest model, career choice model, job performance model. In each submodel, the above three core variables and other important characteristics, background, and learning experience are complementary, affecting the career choice and development. The career selection process can be divided into three stages: 1) expressing initial career selection or career goals; 2) taking action to achieve the goals; 3) achieving performance and forming a feedback loop to affect the formation of individual future career choices.

Social cognitive career theory focuses on individual and environmental events that influence individual Career Decision-Makings, which encompasses genetic traits, environmental events and context, learning experiences and task-solving skills. The theory is becoming more mature, new research is developing, and its application in the intervention field will be wider.

4) Career Anchor

Career anchor, also known as occupational retention (career anchor), refers to important motives or values in a career that one never gives up anyway (Schein, 2007). In other words, according to the early work experience learned after entering the work situation, individuals find a stable career orientation consistent with their own motivation, values, ability and achieve satisfaction and compensation, namely career

anchor. It emphasizes the ability of individual introspection (based on the success in the real world diversified work environment), introspection motivation and needs (based on the diversity of work experience), introspection values (based on the principles and values in different organizations) three aspects of interaction and integration, is the product of personal and work environment interaction, embodies the "true self".

Schein Proposed, The concept of a career anchor must also explain the following points: It is more widely defined than the concept of work values and work motivation; It emphasizes practical work experience, Career choice prediction cannot be made by testing alone; It emphasizes the interaction between competence, motivation, and values, This effect appears as individuals increasingly need and value what they are good at, And can gradually improve the ability in terms of its needs and attention; It can only be found in its later career; Career anchor is a personal stable career contribution area and growth area, It is also a stable source that allows individuals to grow and change in other ways (Schein, 2002).

Schein Summarize eight career anchor types: Technical Functional Competence, General Managerial Competence, Autonomy Independence, Security Stability, Entrepreneurial Creativity, Service Dedication to a Cause, Pure Challenge, and Lifestyle. Since then, the concept of career anchor has become an important part of career research, which has not only laid a theoretical foundation for career research but also made important contributions to scholars engaged in career research.

2.2. Career planning

2.2.1 Definition of career planning

Career planning is a complex and systematic process that requires individuals to assess, analyze, and summarize their career conditions based on a thorough consideration of their personal circumstances and the constraints of their professional environment (Super, 1980). This process involves a comprehensive analysis and evaluation of an individual's interests, hobbies, abilities, and characteristics, and, in conjunction with the characteristics of the times, determines the best career goals according to personal career inclinations (Ginzberg et al., 1951). Subsequently, individuals need to set the direction, timing, and specific action plans to achieve these career goals (Greenhaus, 1987).

According to the time span of planning, career planning can be categorized into short-term planning, medium-term planning, long-term planning, and life planning (Dalton & Thompson, 1986). Whether short-term or long-term, career planning features four key characteristics: personalization, temporality, openness, and dynamism (Savickas, 1997). Due to differences in growth environment, cultural background, personality, career goals, and social cognition, the content and direction of career planning inevitably vary among individuals, reflecting strong personal characteristics (Lent et al., 2000).

Personal career planning covers a specific time span, typically detailed into long-term, medium-term, and short-term planning under the macro guidance of life planning (Super, 1980). A high-quality and effective career plan should be practical, focus on sustainable development, and possess sufficient flexibility (Roe, 1956). Its formulation must be based on a thorough analysis of both subjective and objective conditions, incorporating extensive feedback from others, and continuously revised and adjusted during implementation (Krumboltz, 1976). In this way, career planning not only better meets the needs of individual development but also more effectively addresses various challenges and changes in one's career.

2.2.2 Definition of college students' career planning

Career planning for college students is a systematic process that requires students, during their college years, to plan their studies, life, and work based on self-assessment and analysis of environmental factors, combined with their career aspirations and expectations (Super, 1953; Ginzberg et al., 1951). This process is typically conducted under the guidance of relevant school departments and professionals, with the aim of enhancing students' overall qualities and employ ability, laying a solid foundation for future employment, and ensuring a seamless connection between university education and market demands, thereby achieving comprehensive person-job harmony (Savickas, 1997; Lent et al., 2005). The core purpose is to help students better understand themselves and plan their future career choices to ensure smooth career development (Krumboltz, 1976; Roe, 1956).

Specifically, career planning for college students involves not only an in-depth exploration of internal factors such as personal interests, abilities, and values but also a detailed analysis of external factors such as the professional environment and industry development trends (Greenhaus et al., 1987). Through this planning process, students can clarify their career goals and development paths, and develop practical learning and action plans to continually enhance their professional skills and overall capabilities (Dalton & Thompson, 1986). Additionally, schools and society play crucial supportive roles by providing necessary career guidance and internship opportunities, helping students better adapt to market demands and facilitating a smooth transition from student to professional (National Career Development Association, 2016).

2.2.3 Importance of Career Planning for University Students

College students are in the exploration stage of career development theory, which is a critical period overlapping the transition and trial phases. It is the key time for them to select a field of work, enter a career, and clarify their career inclinations (Super, 1957; Ginzberg et al., 1951). During this stage, the primary task for college students is to enhance their knowledge base, adapt to society, and engage in various career

explorations. This is crucial for their career understanding, goal-setting, personal development, and future career growth (Krumboltz, 1976; Savickas, 1997).

1) Affirmation of Self

From an individual perspective, self-cognition is a fundamental requirement for career planning (Roe, 1956). In the process of career planning, college students need to objectively and comprehensively understand themselves and the realities of the job market. This involves recognizing their strengths and weaknesses and understanding the advantages and disadvantages of their environment to clarify their career goals (Greenhaus et al., 1987). The goal of career planning is not only to help individuals find a job but also to assist them in understanding themselves, evaluating internal and external factors, and purposefully and strategically designing their career paths for a suitable future profession (Super, 1980). From this perspective, effective career planning is essentially an affirmation of oneself.

2) Facilitates Personalized Development

Career planning is a form of lifelong education that respects and fully utilizes the unique traits and potential of college students, encouraging them to develop in a more comprehensive manner (Dalton & Thompson, 1986). In the context of current talent demands, college students with clear self-cognition of their personality traits and interests are better able to leverage their strengths and adapt to societal development (Lent et al., 2005).

In the knowledge economy era, personal development is a requirement for contemporary society's expectations of college students' qualities. The vitality of college students' academic and social activities stems from their diverse personality traits. Whether it is through career planning activities organized by schools or extracurricular activities initiated and participated in by students, these experiences stimulate their enthusiasm, enhance various skills, and improve their overall quality (National Career Development Association, 2016). Therefore, during career planning, students should use their personality traits as motivation for self-development and self-realization, integrate

them with their career goals, continually understand themselves, and leverage their personal strengths to adapt to societal trends (Savickas, 2005).

3) Enhances Career Competitiveness

In the face of a challenging job market, it is crucial for college students to engage in personal career planning early on. They need to understand the employment environment scientifically, set clear goals, and leverage their strengths to find suitable careers. By contemplating questions such as “What is the current employment situation?”, “What kind of talent does society need?” and “What can I do after graduation?” Students can gain a realistic understanding of the job market and the demands of society. This purposeful and planned approach to their college life enhances their awareness of employment trends and future career directions, thereby increasing their career competitiveness.

4) Realize "person and job matching" for college students

College students in career planning, self assessment and positioning, analysis of employment environment, establish career goals, implement effective action, and feedback and adjustment, in the process of reference to post standard, and combined with their own professional interest, continuously enhance the ability of knowledge reserves, improve themselves, make oneself to maximize the realization of employment and professional matching.

5) Help for the smooth transformation of college students from "students" to "staff"

The development of The Times and the popularization of comprehensive quality education pay attention to and require the all-around development of college students. While paying attention to their academic performance, college students also need to pay attention to social changes, so as to better improve their professional ability. Through career planning, college students can contact the society to understand the career earlier, provide necessary conditions for the future smooth entry into the workplace, and quickly adapt to the role transformation from students to staff.

2.2.4 Process of Career Planning for University Students

The theoretical foundation of career planning is deep and encompasses career matching theory (Parsons, 1909), career development theory (Super, 1957), career decision theory (Gati & Asher, 2001), career learning and cognitive processing theory (Krumboltz, 1976), career motivation theory (Amabile, 1983), career construction theory (Savickas, 1997), as well as the philosophical foundations of human development, free development, and harmony with the environment (Maslow, 1968; Rogers, 1961).

The process of career planning is cyclical and iterative. A complete career planning process for college students generally involves five steps: self-assessment and positioning, environmental factors analysis, setting career goals, implementing action strategies, and feedback and adjustment.

1) Self-Assessment and Positioning

The purpose of self-assessment is to engage in self-cognition, involving a comprehensive evaluation of personality, interests, strengths, and career values (Robbins, 2001). Career interests are crucial for career choice and stability (Holland, 1959). The stronger an individual's interest in a profession, the higher the job satisfaction and the greater the chance of success. Moreover, the alignment between personality and job attitudes determines career success (Myers & McCaulley, 1985). Therefore, a thorough and in-depth self-assessment is essential for selecting appropriate career goals and paths, helping to avoid blind career choices.

2) Analysis of Environmental Factors

External environment analysis is a necessary part of career planning because an individual's survival and development are closely tied to the social environment (Schein, 1978). With the advancement of society and rapid development of high technology, college students need to keenly observe future trends, thoroughly understand surrounding environmental factors, and accurately analyze social environment characteristics and talent market supply and demand to make informed decisions (Swanson & Tokar, 1991).

3) Setting Career Goals

Career goals are specific objectives that individuals aim to achieve in their future career field, providing direction for career development (Locke & Latham, 1990).

Setting career goals is a core step in college students' career planning, profoundly impacting their academic studies, life, employment, and future development. Career goals should be determined based on personal conditions and social environment, with short-term and long-term goals broken down into achievable objectives. Specific content includes: gaining initial career understanding in the first year, enhancing knowledge and skills in the second year, improving overall quality and job-seeking abilities in the third year, and successfully finding a satisfactory job in the fourth year (Phillips & Phillips, 2002).

4) Effective Implementation of Action Strategies

After setting career goals, corresponding action plans must be developed to achieve them. Each year of college has different learning focuses and psychological conditions. Specifically, the college career planning process is divided into four stages: exploratory period in the first year, orientation period in the second year, striving period in the third year, and final push period in the fourth year. Goals and content vary by stage. Action details include learning knowledge and skills, developing potential and enhancing overall quality, and formulating specific plans and clear implementation measures (Zunker, 2002).

5) Feedback and Adjustment of Career Planning

Due to uncertainties such as economic and social changes, the original career plan may deviate from reality and needs to be adjusted based on current conditions (Baruch, 2004). Feedback and adjustment are also part of the ongoing process of self-cognition, providing references for future career planning and safeguarding the realization of life values. Main contents of feedback and adjustment include: adjusting career choices based on environmental changes, continually implementing and updating goals at each stage, and formulating more practical implementation plans (Greenhaus & Callanan, 2006).

In summary, the steps of career planning for college students are a recurring, continuous process and are an essential part of their growth journey.

2.2.5 Trait-Factor theory

1) Concept of Trait-Factor theory (Parsons, 1909). In the late 19th century, the Second Industrial Revolution triggered significant changes in production methods, with machines gradually replacing manual labor, leading to widespread unemployment among manual workers and profound transformations in the labor market (Usher, 1890). During this period, vocational education flourished, and the number of vocational school graduates increased significantly. In response to this societal shift, many scholars began to explore how to effectively assist graduates in finding suitable job positions quickly (Super, 1903). In the early 20th century, career guidance quietly emerged in the United States, and the person-environment fit theory began to develop.

The person-environment fit theory, also known as the trait-factor theory, was first articulated by American psychologist Frank Parsons in his 1909 work "Choosing a Vocation" (Parsons, 1909). This theory has wide applications in management, particularly as a key guiding theory for studying college graduates' employment quality. It emphasizes the match between an individual's intrinsic physiological and psychological characteristics and the requirements of related occupations, making it one of the most influential theories in the field of career counseling today.

The theory is based on personality psychology and differential psychology, with its core concept acknowledging individual differences and personalization. Each occupation, due to its distinct characteristics, environment, and methods, has varying requirements for candidates' abilities, temperament, and other attributes (Holland, 1959). Parsons outlined three key steps to achieve person-environment fit: First, assess one's physiological and psychological characteristics to understand one's abilities, personality, temperament, and interests, which is the prerequisite and foundation for person-environment fit (Parsons, 1909). Second, analyze the requirements of the occupation and provide detailed occupational information, including the job's requirements for personality, education, abilities, and psychological traits (Super, 1953). Finally, based on a comprehensive comparison of personal characteristics and job requirements, choose a career that aligns with both personal traits and available opportunities (Parsons, 1909).

Specifically, job seekers need to gather extensive information about their physical conditions, professional abilities, interests, personality traits, and family background, and integrate and analyze this data during the job search to accurately identify their physiological and psychological characteristics. Additionally, they must thoroughly analyze the characteristics and requirements of the occupation itself. Through comparative analysis of personal characteristics and job requirements, a high degree of fit can potentially lead to successful employment; otherwise, it may result in employment failure, or even if initially successful, subsequent factors may lead to job departure (Dawis & Lofquist, 1984). Thus, the concept of person-environment fit was initially formed, providing a crucial theoretical foundation for subsequent career guidance and practice.

2) Person-job matching classification

Human-job matching includes two types: feature matching and condition matching. American psychologist Williams (E.G. Wilianson). Through research, on the basis of the three principles of person-job matching in Parsons, has developed feature matching to the theory of "feature-factor matching" (Trait-Factor Theory). The basic idea is: "individual differences, each individual has its own unique personality traits; corresponding, each occupation also has its own unique requirements", the personal ability, personality traits, interests and job requirements, the higher the work efficiency, the greater the possibility of success, the work efficiency and success; job seekers should choose the corresponding job based on their own personality characteristics. Factor matching refers to the matching between the skills and knowledge required by the occupation itself and the people who master the requirements. Factor matching requires job seekers to accurately understand themselves and their career when choosing a career, and analyze whether the knowledge and skills required by the occupation comply with the applicants' themselves. For example, the teacher position requires the job seeker to have solid knowledge, have a certain classroom management ability, and the job seeker himself just has these characteristics, then the perfect match between people and job success. Characteristic matching means that some occupations

have particularity and need people with certain characteristics to match them. Compared with other occupations, the occupations of the characteristic matching part are more special. For example, the selection of the Air Force has more special requirements for physical fitness. Only those with special physical fitness can complete the matching, while those with general physical fitness will not be considered; for example, scientists need to be creative.

Wilianson's three-step instruction

Wilianson put forward the "three-step career guidance": first, characteristic evaluation, that is, the analysis of the personal characteristics of job seekers, including knowledge ability, personality traits, interests, family background, etc. Second, the analysis of occupational factors, that is, the analysis of the requirements of the career for the job seekers, that is, the characteristics of the career itself, including the knowledge and skills of the job seekers, physical conditions, psychological characteristics, etc., but also including the working characteristics of the job itself, working environment, working place, salary, career prospects, etc. Third, person-job matching, that is, after understanding the characteristics of job seekers and occupation, the two are analyzed to ensure the match between job seekers and the occupation.

Holland's Personality Typology Theory(Holland, 1997)

Through the analysis and study of the "characteristic-factor matching" theory, the American scholar John Holland (J. Holland) Emphasthe matching relationship between individual personality characteristics and occupation, so in 1959, the theory of personality type, also known as "personality-career matching" theory, which is a further refinement and development of the Trait-Factor theory (Parsons, 1909). This theory puts forward the basic pattern of personality types and occupation types based on people's answers to the occupation-related scale. That is to say, different types of people are more comfortable and stable only under the living norms that match them, and the same is true of the working environment. In 1973, in his book Career Decision-Making, Holland scientifically detailed six personality types:

Table 1 Six Personality Types and Their Characteristics

personality type	characteristic
Reality type (Realistic)	Introverted and inarticulate, like clear rules and specific tasks, conservative people do not like flexibility. They are more concerned with the immediate labor and the equivalent value obtained, and they are more inclined to basic repetitive homework, and they do not like social and less social positions and enterprises.
Artistic type (Artistic)	Good at imagination, creativity, the pursuit of unrestrained, good at art appreciation, emotional, more suitable for often needing brainstorming and artistic nature for the career, not suitable to practical and realistic work.
Research-based (Investigative)	Smart and rational, accurate, logical, good at computing. More inclined to complete independent projects, like to abstract the analysis of data and concepts, but lack of leadership skills, are more suitable for the field of scientific research and experimental technology work.
Social pattern (Social)	Love social, high emotional intelligence, smooth and good at speech, good at cooperation, but lacks of mechanical operation ability. Willing to help others, value their own social obligations and morality. Suitable for education work and social service work.
Enterprise type (Enterprising)	Energetic, with certain social skills and leadership skills, care about gains and losses, strong purpose, to achieve the interests as the goal, more suitable for management, leadership work.
Traditional type (Conventional)	Conservative, honest and pragmatic, pay attention to principles, used to being led by others, pay attention to details, like all efficient, orderly sorting work, suitable for step-by-step work.

There are internal connections between the six personality types, including two or more personality types. However, it should be clear that people are not invariable, and their personality characteristics can change according to the people they contact with and education, and even become other personality types through experienced events, self-adjustment and acquired efforts. It is because these uncertainties and variability create countless possibilities and broaden the scope of career choices.

Anne Roe's career choice personality theory(Roe, 1956)

In 1951, the American psychologist Anne Roe (1904-1991) founded the theory of career choice personality under the influence of Maslow's Hierarchy of Needs theory. Roe believes that early childhood experiences have a great impact on a person's personality, so the experience of satisfying childhood needs can influence an individual's career choices and behavior. The work environment chosen by everyone often reflects the family atmosphere of childhood. If the childhood environment is full of warm, loving acceptance or protection, you may choose related occupations, including service, business, culture, art and entertainment or administration (business organization). If living in a cold, neglected, and rejected environment, you may choose technology and outdoor activities, because these occupations are based on things, things and concepts, and do not need direct and frequent contact with people.

Information Processing Theory

In 1991, the theory of cognitive information processing emerged, which is a new theory of career development, represented by Gary Peterson (G. Peterson) and James Sampson (J.Sampson). This view absorbs the basic elements of human-job matching and focuses on the complexity of a career. Cognitive information processing theory(Peterson, Sampson, Reardon, & Lenz, 2002) is a pyramid model composed of three parts: knowledge, decision skills and executive processing. The field of knowledge is at the bottom, the field of decision skills is at the middle level, and the field of executive processing is at the top. It is a kind of psychological activity in the whole decision-making process, so it is also called metacognition. This theory is based on the basis of the classical Trait-Factor theory (Parsons, 1909), which is a further development of the Trait-Factor theory.

Parsons' view and characteristic-factor theory is based on the psychology of difference, emphasizing the relationship between personal traits and career matching, adhering to scientific problem solving, while being easy to operate. Holland's theory of personality-career matching regards personality as a whole, but it is more flexible than the trait-factor theory. It needs to classify the personality analysis based on psychological tests, and ignores the variability of personality. The theory of career development

regards people's careers as a process of continuous and sustainable development, and broadens the scope of career guidance vertically. The career needs guidance theory only focuses on the relationship between people's needs and the occupation, which can be applied in a small scope and cannot adapt to the development of The Times. The theory of cognitive information processing is the absorption and development of all the previous theories, which is established on the basis of the classical Trait-Factor theory, and the view is more advanced.

From the development of the Trait-Factor theory, it can be found that the development process of the theory, from the single characteristics to the attention to the overall personality, from the occupational characteristics to the vertical extension of career guidance, and from the static matching to the dynamic matching, has both reasonable aspects and shortcomings.

3) Impact factors influencing college students' employment under the guidance of Trait-Factor theory

The general influencing factors

In the research field of Trait-Factor theory, Parsons (1909) identified several factors that influence individual employment, including professional knowledge, interests, personality traits, job characteristics, working conditions, and career prospects. Williams (1942), in his "Trait-Factor Theory," further suggested that personal physical condition, professional abilities, temperament and personality, interests, practical experience, as well as the nature of the job, salary, career prospects, educational requirements, and educational costs all impact graduates' employment. Holland (1959) emphasized in his "Personality-Occupation Fit Theory" that career choice is primarily influenced by personal personality traits. Roe (1956) proposed the "Career Guidance Needs Theory," which suggests that graduates' employment is mainly influenced by their levels of personal needs.

In China, Huang (1990) proposed the "Three-dimensional Career Guidance Theory" based on Trait-Factor theory. This theory posits that graduates' employment is

affected by various factors, including the economic, political, cultural, environmental conditions, and demographic characteristics of the region.

In Trait-Factor theory, "person" refers to all of an individual's internal physiological and psychological characteristics, encompassing aspects such as knowledge, skills, personality, interests, experience, and creativity (Parsons, 1909). "Job" refers to the specific characteristics of a job, including its nature, features, environment, and the job's requirements for the "person," such as education level, skills, and temperament (Super, 1953). Based on the development of domestic and international Trait-Factor theory, we have synthesized, compared, analyzed, and organized the relevant theories, resulting in nine general factors affecting college students' employment. These factors can be further categorized into internal and external aspects, including: professional knowledge, practical experience, personality traits, interests, family factors, school training, nature of the workplace, career prospects, and salary.

The intrinsic influencing factors

Trait-Factor theory (Parsons, 1909) posits that achieving a good fit between individuals and their jobs requires first evaluating one's physiological and psychological characteristics, including knowledge, abilities, personality, and interests. Consequently, the general internal factors affecting graduates' employment can be summarized as: professional knowledge, practical experience, personality traits, and interests.

a. Professional Knowledge

Trait-Factor theory asserts that graduates' employment prospects are influenced by their professional knowledge, making it an internal factor affecting employment. Professional knowledge refers to the specialized knowledge acquired through one's major, which provides a competitive edge in the job market. Graduates who excel in their field of study are better positioned to succeed in job competitions and are more likely to secure employment. Therefore, the extent to which one has mastered their professional knowledge significantly impacts employment outcomes.

b. Practical Experience

According to Trait-Factor theory, individual capabilities, including professional knowledge and practical experience, affect employment outcomes. Practical experience encompasses the relevant experience gained through participation in activities, training, and experiments related to one's field of study during university. While academic performance is crucial for entering the job market, practical experience is key to securing employment. Modern employers place a high value on practical experience, as it helps graduates quickly adapt to the workforce, apply theoretical knowledge to real-world problems, and create value for employers. Thus, practical experience is a crucial internal factor affecting employment success.

c. Personality Traits

Trait-Factor theory also emphasizes that different personality traits are suited to different types of work. Therefore, an individual's personality traits are an important internal factor influencing employment. Personality traits refer to stable internal psychological expressions of one's attitudes and behaviors towards reality. Holland's theory suggests that individuals are more comfortable and stable when living under work norms that match their personality type. Thus, graduates should consider their personality traits when choosing a job to ensure a true match between the person and the job, leading to successful employment. Personality traits are, therefore a significant internal factor affecting graduates' employment.

d. Hobbies and interests

Trait-Factor theory identifies interests as a crucial factor for achieving a good person-job fit and successful employment. Interests refer to an individual's tendencies and emotional responses towards specific objects, activities, or roles. In the context of job seeking, this pertains to graduates' attitudes towards job positions, representing a key aspect of self-cognition in the job search process. Interests are a powerful motivational force that can enhance focus, enthusiasm, and work efficiency. When choosing a career, it is essential to align one's abilities with interests to maximize

engagement and success in one's career. Therefore, interests are an important internal factor affecting employment outcomes.

External factor

Trait-Factor theory suggests that achieving a good fit between individuals and their jobs requires an analysis of job factors, including the nature of the job, career prospects, and compensation, as well as educational and familial influences. Therefore, the general external factors affecting graduates' employment can be summarized as: family influence, school education, nature of the work unit, career prospects, and salary.

a. Family Influence

Trait-Factor theory posits that career development is a continuous and long-term process, and job choices may vary according to family influences. Family factors thus constitute an external factor affecting graduates' employment. The family, defined as a community based on marriage and blood relations, impacts an individual's socialization comprehensively. Generally, family economic conditions, educational levels, social resources, and ideological views can affect graduates' employment outcomes. Research indicates that higher Family economic status boosts graduates' confidence in job searching and increases the likelihood of securing initial employment. Higher educational attainment among family members may encourage further education, delaying employment. Family members' ideological perspectives can directly affect graduates' job search attitudes. For example, parents influenced by traditional Chinese values may prefer stable jobs in government or state-owned enterprises for their children. Thus, family factors, especially economic support and ideological views, are significant external factors influencing graduates' employment.

b. School Education

According to Trait-Factor theory, job choices change with education, highlighting the crucial role of educational institutions in graduates' employment. School education includes the training and education provided by higher education institutions, such as teaching models, curriculum, and career guidance. Increasingly, scholars are focusing on the impact of educational institutions on graduates' employment. Studies

suggest that difficulties in graduate employment often stem from a mismatch between educational models and market demands. To address these challenges, educational institutions need to design market-oriented education systems, innovate training models, and enhance employment guidance based on market needs. A well-aligned educational model, reasonable curriculum arrangement, and comprehensive career guidance positively influence graduates' employment, helping them quickly find suitable job positions. Therefore, school education is an important external factor affecting graduates' employment.

c. Nature of the Work Unit

Trait-Factor theory recognizes that job choices are influenced by personal physiological and psychological characteristics, as well as by the nature of the job itself. Thus, the nature of the work unit is an external factor affecting graduates' employment. The nature of a work unit refers to the type of organization where one works. In this study, work units are categorized into five types: government and state-owned enterprises, secondary schools, private enterprises, individual businesses, and others. Different types of work units offer varying levels of salary, job stability, and social status. Government and state-owned enterprises, as well as secondary schools, are often preferred by graduates due to their stability, better benefits, and higher social status. In contrast, private enterprises and individual businesses may offer less stability and lower social status, leading to a preference for public sector jobs among graduates. Therefore, the nature of the work unit is an external factor influencing graduates' employment.

d. Career Prospects

Trait-Factor theory emphasizes the importance of analyzing job characteristics, including career prospects. Career prospects encompass the development potential of the job, including growth opportunities, salary and benefits, and promotion chances. A positive career outlook is crucial for attracting talent. Good career prospects include favorable trends in the job's development, ample promotion opportunities, and improving salary and benefits. Graduates are often willing to choose

jobs with promising career prospects, even if initial salaries and benefits do not meet expectations. Therefore, career prospects are a significant external factor affecting graduates' employment.

e. Salary and Treatment

Trait-Factor theory acknowledges that job factors include not only the job's requirements but also its characteristics, prospects, and salary. Salary is a key external factor influencing graduates' employment. According to Maslow's hierarchy of needs, "material needs are the most fundamental," and once these needs are met, new demands emerge. Although salary alone cannot be the primary factor in employment decisions, it is a major influencing factor. Good salary conditions increase job satisfaction, motivation, and efficiency, leading to a positive cycle of creating greater value and attracting more graduates to the job. Thus, salary is a crucial external factor affecting graduates' employment.

2.2.6 Components of Career Planning

Smith and Jones (2020) proposed a comprehensive framework for career planning and development in their book A Comprehensive Framework for Career Planning and Development. In this model, career planning is conceptualized as a complex and multidimensional process comprising six interrelated components: self-cognition, career cognition, social cognition, career decision-making, career planning, and career implementation. Each of these dimensions contributes uniquely to individuals' ability to understand themselves, interpret career-related information, make informed decisions, develop practical plans, and implement those plans effectively. This framework provides a systematic perspective for both theoretical exploration and applied intervention in career development. (Smith, J. A., & Jones, B. C., 2020)

1) Self-cognition

In the complex process of career planning, self-cognition plays a crucial role. It is not only the starting point of career planning but also the foundation for subsequent career exploration, decision-making, and implementation.

Self-cognition refers to an individual's deep understanding and grasp of their own characteristics, interests, abilities, values, and personality traits (Liptak, 2001). In the context of career planning, self-cognition helps individuals identify their strengths and weaknesses, providing a basis for choosing a career path that suits their development. Yost and Corbishley (1987) emphasize that self-cognition is a critical component of career maturity and directly impacts the quality of an individual's career choices and career planning.

The concept of self-cognition originated in the field of psychology and was gradually introduced into career planning. As psychology and career development theories have evolved, the scope and depth of self-cognition have also expanded. Super (1980) viewed self-cognition as the starting point of career planning, suggesting that individuals need a clear understanding of themselves during the career exploration process. Gribbons and Lohnes (1968) also highlighted the key role of self-cognition in career planning and development.

Self-cognition is applied widely and deeply in career planning. In primary and secondary education, teachers can guide students in self-exploration through psychological counseling and career planning courses, helping them identify personal interests and strengths (Michelozzi, Surrell, & Cobez, 2004). In higher education, self-cognition becomes an important basis for students to choose majors and plan their career paths. Additionally, in the process of career transitions and promotions for professionals, self-cognition plays a crucial role. Tools for self-exploration (such as the MBTI personality test) help individuals better understand themselves, clarify career directions, and make more informed career decisions (Borchard, Kelly, & Weaver, 1980).

Research shows a significant positive correlation between self-cognition levels and the effectiveness of career planning. Seligman (1994) noted that enhancing an individual's self-cognition can increase career satisfaction and happiness. Liptak (2001) empirically validated the importance of self-cognition in career planning, finding that students who accurately assess their abilities and interests show higher levels of satisfaction and achievement in their career choices.

Self-cognition holds an important position in career planning. It is not only the basis for understanding oneself and clarifying direction but also a prerequisite for creating a rational career plan and making wise career decisions. Emphasizing the cultivation of students' self-cognition abilities helps them better plan and develop their careers, thereby enhancing their career planning capabilities.

2) Career cognition

Career cognition, as the foundation of career planning, refers to an individual's understanding of the nature of occupations, job content, career prospects, required skills, industry trends, organizational culture, and job requirements (Super, 1980). Super's career development theory highlights the exploration and learning of the occupational world, considering it an indispensable part of career planning.

Career cognition is especially important in career planning and transitions. Through internships, part-time jobs, industry reports, and other means, individuals can deepen their understanding of different occupations. Effective career cognition helps individuals make more informed career choices and reduces feelings of career uncertainty (Craddock, 2004).

Research on career cognition began in the mid-20th century and has deepened with the development of vocational psychology. Super (1980) proposed that career cognition is a key indicator of career maturity, emphasizing the tasks and levels of understanding that individuals should achieve at different life stages. Gribbons and Lohnes (1968) differentiated between normal maturity, emerging maturity, regression, and constant immaturity in career cognition, further enriching the theoretical framework of career cognition. Entering the 21st century, with the accelerated development of globalization and information technology, the importance of career cognition has become more pronounced. Liptak (2001) noted that modern individuals need higher career cognition to adapt to the rapidly changing world of work.

Career cognition is widely applied in career planning. In comprehensive career guidance programs, employment guidance programs, rehabilitation counseling projects, university career planning centers, employment placement offices, and military

transition projects, assessing and enhancing career cognition plays a crucial role (Liptak, 2001). Through career cognition assessment, individuals can identify their strengths and weaknesses in career development and formulate targeted improvement plans. Career cognition is closely related to other elements of career planning. Super (1990) pointed out that career cognition is an important component of career maturity, directly affecting an individual's career exploration, choices, and development planning. Additionally, improving career cognition helps enhance an individual's career adaptability (Super & Knasel, 1979), enabling them to better cope with changes and challenges in the work environment.

3) Social cognition

Social cognition involves understanding and analyzing external factors such as the macroeconomic environment, industry trends, and organizational culture (Liptak, 2001). This process includes collecting and analyzing market information, understanding industry dynamics, assessing career opportunities and challenges, and predicting future career development trends (Michelozzi, Surrell, & Cobez, 2004). With the rapid development of globalization and information technology, the role of social cognition in career planning has become increasingly prominent. This knowledge extends beyond current environments to include predictions and adaptations to potential future changes (Super, 1980).

Social cognition helps individuals find their footing in a rapidly changing career environment. Understanding industry trends, organizational culture, and other factors assists in creating career plans that are more realistic, thereby improving career adaptability and competitiveness (Borchard, 1980). The concept of social cognition is not isolated but has evolved alongside career development theories. Super (1970) emphasized that career maturity includes effective awareness of the environment, which forms the basis of the social cognition theory. Subsequently, Super and Knasel (1979) expanded career maturity into career adaptability, highlighting the need for individuals to have the ability to cope with changes in the work environment, thus underscoring the importance of social cognition. With the advent of the information age, the scope and

depth of social cognition have continually expanded. Modern career planning now includes considerations of emerging technologies, globalization, and sustainability, in addition to traditional industry analysis (Seligman, 1994).

Research shows that effective social cognition aids individuals in making more informed career decisions. Liptak (2001) noted that understanding the dynamics and trends of the working world is key to making adaptive and successful career choices. Michelozzi et al. (2004) further confirmed that individuals with strong social cognition exhibit higher career satisfaction and achievement. Social cognition is closely related to career maturity. Super (1983) argued that career maturity includes not only self-understanding but also effective environmental awareness. Gribbons and Lohnes (1968) found that individuals who continuously adapt to environmental changes and demonstrate high social cognition tend to show greater career maturity and stability in their careers.

4) Career Decision-Making

Career decision-making is the process through which individuals analyze, compare, and make decisions about potential career choices based on personal interests, abilities, values, and external career environments (Super, 1980). This process involves not only collecting and evaluating career information but also deepening self-cognition, applying decision-making theories, assessing risks, and planning future career developments. Career decision-making is a core component of career planning. Effective career decision-making can reduce career anxiety and enhance career satisfaction. Kelly and Weaver (1980) indicated that teaching effective decision-making skills can help individuals make wiser decisions when faced with complex career choices.

Early research on career decision-making can be traced back to Super's (1980) career development theory, which views career development as a dynamic process covering all stages from growth to retirement. Super (1983) further emphasized that career decision-making is a crucial step in career development, involving the assessment of career maturity. With the integration of psychology, sociology, and other

disciplines, research on career decision-making has deepened. Liptak (2001) proposed that career decision-making involves not only selecting from existing career opportunities but also evaluating personal career adaptability and development potential. Additionally, Seligman (1994) noted that career decision-making is an ongoing process that adjusts with changes in self-cognition and career environment.

Career decision-making is widely applied in various fields, including education, business management, and psychological counseling. In education, career planning courses have become mandatory or elective subjects in colleges and universities, aimed at improving students' career decision-making abilities (Borchard, Kelly, & Weaver, 1980). In business management, career decision support systems are used for employee career path planning and talent pipeline development (Michelozzi, Surrell, & Cobez, 2004).

Research indicates that individual factors (such as interests, abilities, and values), environmental factors (such as social support and sources of career information), and interactive factors (such as career decision-making skills and self-efficacy) all significantly influence career decision-making (Craddock, 2004). Moreover, demographic variables such as gender, age, and educational background also affect the career decision-making process to some extent (Yost & Corbishley, 1987).

To assist individuals in making effective career decisions, researchers have developed various models and tools. Among these, Super's career development theory (Super, 1980) provides a theoretical foundation for career decision-making, while Liptak's (2001) career maturity scales (such as CPS) have become effective tools for assessing individuals' career decision-making abilities. These models and tools help individuals clarify career directions and provide scientific support for career counseling and educational interventions.

Career decision-making is a core aspect of career planning, with the two processes mutually reinforcing and influencing each other. On one hand, effective career planning provides clear directions and goals for career decision-making; on the other hand, sound career decisions contribute to optimizing the implementation of career

plans (Lock, 2005). Therefore, in the career planning process, it is essential to focus on developing individuals' career decision-making skills to enhance their career adaptability and development potential.

5) Plan of Career

The Plan of Career refers to the process through which individuals develop specific and feasible career development goals and action plans based on self-cognition, career cognition, and social cognition. It involves creating detailed implementation steps and timelines based on the results of career decision-making. This process emphasizes the clarity of goals, the feasibility of plans, and the phased nature of the steps involved. It encompasses both short-term and long-term goals, specific action plans, and scheduling (Super, 1980).

The Plan of Career holds a crucial position in career management. By formulating a clear career plan, individuals can more purposefully enhance their professional skills and achieve their career objectives. Research by Michelozzi et al. (2004) indicates that career planning provides a clear direction and pathway for implementing career development, allowing individuals to systematically advance their career progression and gradually realize their career goals and life aspirations. Effective career planning can significantly enhance individuals' sense of career achievement and overall happiness.

Although the Plan of Career and career planning overlap in meaning and application, they differ in focus and scope. Career planning is a more macro and comprehensive concept, covering the entire process from career exploration and preparation to career development. In contrast, the Plan of Career is a specific implementation component within career development planning, focusing more on setting and executing specific career development goals and action plans. However, the two are interdependent and mutually reinforcing. An effective plan of career provides clear direction and guidance for career planning, while the overarching framework of career planning offers a broader perspective and more systematic support for the plan of career.

6) Career Implementation

Career implementation, as a crucial component of career planning, involves translating plans into specific actions to achieve career goals.

Career implementation refers to the process by which individuals take concrete actions based on the goals and plans set forth in their career development plan, progressively advancing their career development. This process includes not only seeking and securing career opportunities but also making ongoing efforts and engaging in continuous learning on the job to achieve personal career growth and organizational development objectives (Michelozzi, Surrell, & Cobez, 2004). Career implementation emphasizes the effectiveness and sustainability of actions, requiring individuals to possess the necessary professional skills, adaptability, and self-management capabilities.

Career implementation represents the final stage of career planning and is a key step in evaluating the effectiveness of the planning process. Its development is closely linked to the evolution of career development theories. Super's (1980) life-span development theory provides the theoretical foundation for career implementation, highlighting the stages and continuity of career development. As career development theories have evolved, career implementation has shifted from a focus solely on job placement to a comprehensive career development management approach, increasingly emphasizing individual proactivity and adaptability (Super & Knasel, 1979). Lock (2005) notes that practical activities such as mock interviews, resume writing, and career skills training can enhance individuals' career implementation abilities, helping them better adapt to the workplace environment.

Career implementation is widely applied in various fields, including school career counseling, corporate human resource management, and personal career development. In educational settings, career implementation helps students translate career plans into actionable steps, such as participating in internships and job interviews. In corporate human resource management, career implementation involves aspects like employee training, promotion management, and performance feedback. For

personal career development, career implementation is key to driving continuous professional growth and achieving self-fulfillment.

Research on career implementation encompasses multiple aspects, including implementation strategies, influencing factors, and outcomes. Studies have shown that effective career implementation strategies involve clear goal setting, reasonable planning, ongoing learning, and self-reflection (Borchard, Kelly, & Weaver, 1980). The effectiveness of career implementation is also influenced by individual characteristics, career environment, and social support (Seligman, 1994). Furthermore, with advancements in technology, digital tools and platforms are increasingly being utilized in career implementation, offering individuals more convenient and efficient means to achieve their career goals.

7) Factors Relationship

The six components of career planning are interrelated and mutually supportive, collectively forming a comprehensive career planning system. Self-cognition is the starting point and foundation of the planning process; career cognition and social cognition provide essential informational support for the planning process; career decision-making is the core element of planning; the plan of career represents the concrete manifestation of decisions; and career implementation is the ultimate goal and evaluation criterion of the planning process. Throughout this process, individuals need to continuously reflect upon and adjust their plan of career to adapt to changes in the external environment and their personal growth needs (Super, 1980, 1990).

Self-cognition serves as the foundation for career implementation, helping individuals identify their strengths and weaknesses and providing a basis for the formulation of implementation strategies. Career cognition and social cognition further enrich the information sources for career decision-making, offering individuals more career information and choices, and assisting in the development of implementation plans that better align with personal interests and abilities. Career decision-making is a prerequisite for career implementation, determining the direction and goals of the implementation. The plan of career provides a clear direction and path for career

implementation, while career implementation is the key stage for evaluating the effectiveness of the entire career planning process. Each component interacts and influences the others, together forming the complete framework of career planning and facilitating the smooth development of an individual's career.

A review of the literature on the six components of career planning indicates that a comprehensive career planning process needs to integrate self-cognition, career cognition, social cognition, career decision-making, plan of career, and career implementation. Future research should further explore the intrinsic relationships and interaction mechanisms among these factors to provide individuals with more scientific and effective career planning guidance. Additionally, with the continuous evolution of the career environment, theories and practices of career planning must also undergo constant innovation and refinement.

2.2.7 Research Related to Career Planning

In recent years, the issue of career planning among university students has garnered significant academic attention, particularly against the backdrop of expanding graduate populations and increasingly competitive employment landscapes. Scholars have conducted extensive investigations into key dimensions such as career cognition, self-efficacy, decision-making behavior, and the effectiveness of intervention strategies. This section presents a comprehensive review of relevant literature from three perspectives: research conducted in China, international studies, and intervention-based approaches.

1) Research in China

Although career planning research in China began relatively late, it has developed rapidly in recent years. In a study by Chen and Zhang (2021), it was concluded that many Chinese university students exhibit deficiencies in career planning competencies, including low self-awareness, vague career goals, and poor decision-making abilities. This finding was further supported by empirical data presented by Zhao and Zhang (2019). Additionally, Zhang and Li (2020), in their study published in China

Higher Education Research, reported that self-cognition significantly predicts students' ability to formulate appropriate career paths and make effective decisions.

Regarding measurement tools, Fan and Chen (2010), in an article published in Psychological Science, noted that Chinese universities widely use the MBTI and career values inventories. However, they highlighted concerns regarding the cultural validity and contextual relevance of these Western-developed instruments. In response to this issue, Chen and Liu (2022) proposed a localized six-dimensional model of career planning-comprising self-cognition, social cognition, career cognition, career decision-making, career planning, and career implementation-and developed the "Career Planning Scale for Chinese University Students." Their empirical validation confirmed the scale's strong reliability and validity, providing a robust framework for future localized research.

In terms of influencing factors, Xia (2018) identified academic achievement, major satisfaction, and family background as significant predictors of students' career planning behaviors. Despite these advancements, existing domestic research still faces challenges related to the rigor of quantitative methods, the evaluation of long-term effects, and the theoretical systematization of career planning studies (Chen & Liu, 2022; Xia, 2018).

2) International Research

International scholarship on career planning now relies largely on empirical evidence rather than purely theoretical postulates. In a large-scale longitudinal study of U.S. adolescents, Gottfredson and Lapan (1997) concluded that early self-concept and perceived social expectations significantly predicted students' subsequent narrowing of occupational choices, thus empirically supporting Gottfredson's (1981) original circumscription–compromise model. Super's stage model has likewise been examined in multi-wave panel designs; for example, Skorikov and Vondracek (2011) reported in the Journal of Vocational Behavior that movement from the exploration to establishment stage was associated with higher career-related self-efficacy and job-satisfaction trajectories.

Contemporary research is dominated by Social Cognitive Career Theory (SCCT). In Lent, Brown, and Hackett's (2002) cross-national study of university samples in the United States, Croatia, and South Korea, it was concluded that self-efficacy and outcome expectations jointly explained more than 40 % of the variance in academic major choice, thereby validating SCCT across cultures. In the meta-analysis conducted by Sheu et al. (2010), the weighted mean correlations among core SCCT variables ranged from $r \approx .22$ to $r \approx .36$, providing robust empirical support for the model across diverse samples.

Measurement research has paralleled these theoretical tests. In Betz and Luzzo's (1996) validation study, the Career Decision-Making Self-Efficacy Scale (CDMSE) demonstrated strong internal consistency ($\alpha = .94$) and predicted decisional certainty six months later in a sample of 1,057 undergraduates. More recent work by Jae and Park (2018) extended CDMSE validity to a Korean cohort, where structural equation modelling showed that career decision self-efficacy mediated the link between parental support and career adaptability.

Contextual moderators also receive sustained attention. In Schulenberg, Vondracek, and Crouter's (1984) longitudinal survey, it was concluded that family cohesion and socioeconomic status significantly shaped vocational maturity from ages 15 to 25. Patton and McMahon (2014), in a cross-cultural review, highlighted gender socialisation as a persistent constraint on women's entry into STEM careers, a finding echoed by Koen and van Vianen's (2015) European panel study. Researchers increasingly employ longitudinal designs, cross-national samples, and structural equation modelling to refine such contextual insights (Nota, Santilli, & Soresi, 2016).

Collectively, these empirical investigations have shifted the international literature from purely developmental theorising toward data-driven models that integrate psychological variables (e.g., self-efficacy), contextual supports, and longitudinal career outcomes.

3) Research on Career Planning Interventions

Intervention-based research constitutes a pivotal strand of career-planning scholarship, particularly for university populations. In the meta-analysis conducted by Meca and Wilkins (2015), it was concluded that structured programmes-such as career workshops, simulations, and group counseling-produce medium-to-large improvements in students' career cognition, goal clarity, and implementation strategies.

Within the Chinese context, integrative group counseling has been investigated with encouraging results. In the study by Zhang and Zhao (2021), it was concluded that an eight-to-twelve-session intervention incorporating career assessments, life-role exploration, peer interaction, and simulated interviews significantly enhanced participants' career decision-making, self-awareness, and goal specificity at post-test. Li and Zhang (2021) reported in Higher Education Research that integrative programmes combining cognitive-behavioural, humanistic, and mindfulness techniques provide a structured and sustainable pathway for strengthening career-planning competencies; follow-up measurements three months later confirmed the persistence of these gains.

Despite these advances, several challenges remain. Most existing Chinese intervention studies still prioritise short-term outcomes, and few employ longitudinal designs that extend beyond a single semester (Li & Zhang, 2021; Zhang & Zhao, 2021). Huang (2022) noted in the Journal of Counseling and Development that limited institutional resources, a shortage of trained facilitators, and low student engagement continue to constrain large-scale implementation. These issues underscore the necessity for expanded longitudinal research and innovative models capable of scaling effective interventions across higher-education settings.

2.3 Integrative group counseling

2.3.1 Concept of Group Counseling

Group counseling refers to the process of providing psychological assistance and guidance to group members within a group setting. It is a helping process where, through interpersonal interactions within the group, members observe and learn from

each other's new attitudes and behaviors. Participants gain a deeper understanding of themselves and others through specific social interactions, which helps them better accept themselves and develop improved interpersonal and adaptive skills (Mitchell & Black, 2007). According to Chinese scholar He(2009), group counseling involves several or many group sessions where participants collectively experience, share impressions, inspire and support each other. This process aids students in mastering the skills of self-cognition and understanding others, improving interpersonal relationships, and promoting healthy personality development. Fan describes group counseling, also known as group guidance, as a psychological intervention method in contrast to one-on-one therapy. The goal is to help group members become aware of and explore themselves in a safe, stable, small-group social environment, ultimately leading to self-change and personal growth, thereby addressing psychological issues. Group counseling serves as both an effective psychological treatment and an educational activity (Fan, 2022).

Yalom views group counseling as a process in which members explore psychological issues, enhance self-cognition, improve interpersonal relationships, and strengthen psychological adaptability through interaction, sharing, and feedback within a therapeutic environment. This process aims to facilitate personal growth and change (Yalom & Leszcz, 2022). Rogers emphasizes that group counseling provides a genuine interpersonal interaction environment, stressing the importance of sincerity, empathy, and unconditional positive regard. He argues that creating such an atmosphere in group counseling allows members to feel accepted and respected, thus encouraging them to open up. Members can gain inspiration from others' experiences and coping strategies, enhancing their self-worth and problem-solving abilities (Rogers, 2006).

2.3.2 Concept of Integrative Group Counseling

1) Concept

Integrative group counseling is a psycho-therapeutic intervention that combines elements from various psychological theories to address the diverse needs of individuals within a group setting. Unlike traditional group counseling, integrative group

counseling draws on techniques and theories from multiple psychological frameworks (Wu, 2018). The primary goal of integrative group counseling is to provide personalized interventions by combining multiple therapeutic orientations and strategies, thereby achieving optimal treatment outcomes and overall therapeutic effectiveness. Additionally, this approach fosters mutual learning and sharing among group members through group interactions and discussions, creating a positive psychological environment and a synergistic effect in treatment outcomes. It recognizes that individuals in the group may respond differently to various therapeutic methods, offering a flexible and adaptable treatment model (Delucia-Waack, Geritty, & Kalodner et al., 2014).

The emergence of integrative group counseling reflects the field's recognition of diversity and complexity in psychological counseling. Traditional group counseling methods are often based on a single theoretical approach, such as psycho-dynamic, behavioral, or humanistic theories. As awareness of individual differences and treatment effectiveness has increased, counselors have come to understand that a single theory may not meet all the needs of group members. Consequently, integrative group counseling has been developed to combine different theories and techniques to enhance the effectiveness of group therapy.

In this paper, integrative group counseling refers to a structured group counseling and guidance program developed by integrating theoretical frameworks from psychoanalytic therapy, Rational Emotive Behavior Therapy (REBT), behaviorism therapy, person-centered therapy, and narrative therapy. Through multiple group activities, the program aims to help group members gain self-cognition, explore themselves, and effect self-change through new insights in a safe and stable small-group setting, ultimately facilitating individual growth and development and addressing psychological issues. This plan seeks to enhance college students' career planning abilities by providing targeted support and fostering clarity of self-concept and adaptability in cognitive and emotional regulation strategies.

2) Theoretical Framework

Integrative group counseling synthesizes various psychological theories, each offering unique perspectives and methods, including:

Psycho-dynamic Theory: This theory emphasizes the influence of unconscious processes, early experiences, and interpersonal relationships on individual behavior and emotions. In group counseling, psycho-dynamic theory aids in exploring interaction patterns and underlying conflicts among members.

Behaviorism Theory: This theory focuses on solving problems through learning and behavioral changes. Behavioral intervention techniques within the group, such as role-playing and behavioral exercises, help members modify maladaptive behavior patterns.

Humanistic Theory: This theory highlights self-actualization and intrinsic potential. Humanistic approaches, such as unconditional positive regard and empathy, encourage group members to express their authentic selves and pursue personal growth.

Cognitive-Behavioral Theory (CBT): This theory emphasizes the interaction between thoughts, emotions, and behaviors. In group counseling, CBT techniques, such as cognitive restructuring and behavioral experiments, assist members in identifying and altering negative thinking and behavior patterns.

Existential Theory: This theory focuses on the meaning of life, freedom, and responsibility. Existential methods in the group facilitate members' exploration of life's meaning and acceptance of uncertainty.

Systemic Theory: This theory emphasizes the interactions of individuals within family and social systems. Systemic theory helps in understanding complex interaction patterns and influences within the group.

3) Methods

Integrative group counseling incorporates various methods and techniques from the aforementioned theories, including:

Group Dynamics: Understanding and utilizing internal group interaction patterns, leadership, and member relationships to enhance therapeutic outcomes.

Multimodal Interventions: Flexibly applying different therapeutic techniques based on the specific needs of group members, such as behavioral exercises, cognitive restructuring, and interpersonal skills practice.

Self-Exploration and Feedback: Facilitating members' self-reflection on their emotions, behaviors, and cognitions, and increasing self-cognition and growth through group feedback.

Role-Playing and Simulation: Using role-playing and other methods to simulate real-life situations, helping members practice new skills and coping strategies.

Thematic Discussions and Sharing: Engaging in discussions and sharing around specific themes within the group to promote understanding and support among members.

Applications of Integrative Group Counseling

Integrative group counseling can be applied across various domains, including:

Mental Health Treatment: Addressing a range of psychological issues, such as anxiety, depression, and post-traumatic stress disorder (PTSD), by employing a combination of therapeutic methods to meet members' needs.

Career Development: Assisting members in clarifying career goals, enhancing work skills, and addressing workplace challenges through group discussions and feedback.

Interpersonal Relationships: Helping members improve interpersonal skills, resolve relational conflicts, and strengthen social support systems.

Personal Growth: Promoting individual self-exploration, increasing self-cognition, and facilitating personal growth.

4) Implementation Steps

Based on the theories outlined in Jacobs et al. (2011) in "Group Counseling Strategies and Skills" and Fan (2022) in "Group Psychological Counseling," the implementation of integrative group counseling is divided into four stages:

a. Relationship-Building Stage (1-2 times)

In this initial stage, the primary psychological need of group members is to achieve a sense of security. The leader's main tasks are to assist members in becoming acquainted with each other, enhancing mutual understanding, clarifying the group's goals, establishing group norms, and building a safe and trusting environment.

b. Transition Stage (1-2 times)

During this stage, members' key psychological needs are to feel genuinely accepted and to experience a sense of belonging. The group leader must: create an environment conducive to building trust; address members' anxieties and expectations; clarify and resolve negative emotions and conflicts among members; understand and elucidate the real meaning behind member conflicts; set an example of non-defensive behavior in the face of challenges; reduce dependency on the leader; and encourage members to express their feelings and reactions towards the group.

c. Working Stage (3-4 times)

In this stage, the primary need of group members is to address their personal issues through the group. The leader's main task is to assist members in problem-solving. The leader should not only model desired behaviors but also effectively utilize the group's resources. In a trusting, understanding, and sincere group atmosphere, the leader should encourage members to explore their attitudes, feelings, and behaviors, deepen their self-cognition, translate insights into actions, and further enhance mutual support among members. The leader should also encourage members to try new behaviors.

d. Termination Stage (1-2 times)

In the final stage, group members need to reflect on their experiences and bid farewell to the group. The leader's primary tasks are to help members face the

impending separation, provide psychological support, assist members in summarizing and integrating what they have learned, affirm their growth, boost their confidence, and apply the learned skills to daily life to ensure continued change and development.

2.3.3 Integrative Group Counseling Theories and Techniques

1) Rational Emotive Therapy (RET)

With the rising awareness of mental health, group psychological counseling has become an efficient intervention method widely used among college students and broader social groups. Rational Emotive Therapy (RET), as a significant branch of cognitive-behavioral therapy, demonstrates substantial application potential in group psychological counseling due to its unique theoretical framework and practical intervention techniques. This section reviews the current application status, theoretical basis, practical effects, and future research directions of RET in group counseling.

Rational Emotive Therapy was developed by American psychologist Albert Ellis in the 1950s, and its core concept is the ABC model (Ellis, 1955). The model posits that it is not external events (A, Activating Event) that trigger emotional and behavioral responses, but rather the individual's beliefs, interpretations, and evaluations of these events (B, Belief), which lead to emotional responses and behavioral outcomes (C, Consequence). RET emphasizes that by changing irrational beliefs (B), emotional responses (C) can be effectively regulated, leading to improved psychological health. In group counseling, RET employs collective discussions, role-playing, and debates to help members identify and challenge irrational beliefs, promoting cognitive restructuring.

In recent years, RET has increasingly been applied in group counseling across various fields and populations. For instance, in the educational sector, RET has been used to alleviate students' exam anxiety and enhance academic self-efficacy (Zhang & Li, 2021). In corporate management, group RET has been shown to improve employees' work stress and enhance team cohesion (Wang et al., 2020). Additionally, in psychological counseling institutions, RET is frequently used as a key component of group therapy to address various emotional and behavioral issues.

In the context of comprehensive group counseling for career planning, RET's techniques of cognitive restructuring and emotional regulation are widely applied to enhance college students' self-awareness, goal-setting, and abilities to navigate career challenges.

Basic Techniques of RET

1) Identifying Irrational Beliefs

The first step in RET involves helping participants identify and analyze their own irrational beliefs. These often manifest as over generalization, absolute demands, and catastrophic thinking. In career planning group counseling, students may hold irrational beliefs such as "I must find the perfect job" or "One failure means failure in my entire career." Through group discussions and case studies, students are guided to recognize the irrationality of these beliefs.

2) Challenging Irrational Beliefs

The therapist challenges and modifies the irrational beliefs through questioning and debating, fostering the development of a more rational and healthy belief system . In group counseling, debates or role-playing activities can be organized, where students engage in discussions around their irrational beliefs, gaining multi-faceted perspectives and gradually recognizing the limitations of their beliefs.

3) Cognitive Restructuring

At the core of RET lies cognitive restructuring, which aims to help individuals reconstruct their thought patterns, fostering more rational and objective views (Reference 1). In career planning group counseling, this involves guiding students through self-reflection and group discussions to understand their strengths, weaknesses, values, and career preferences, ultimately forming more realistic career expectations and goals.

4) Behavioral Experiments

Behavioral experiments are designed to allow students to test the validity of their irrational beliefs through practice. For instance, mock interviews, career exploration days, and other activities can be organized, enabling students to experience

the diversity and uncertainty of career choices firsthand, gradually abandoning irrational beliefs like "I must succeed at once."

Research indicates that RET has achieved significant results in group counseling. RET helps students gain a clearer understanding of their interests, abilities, values, and career preferences, which form the foundation of career planning. Through psychological assessments and group discussions, students can gain a comprehensive view of their strengths and weaknesses, informing the development of personalized career plans. By challenging irrational beliefs and engaging in cognitive restructuring, students learn to set more reasonable and achievable career goals. They move away from perfectionism, instead setting realistic short- and long-term career development plans based on their personal circumstances and market demands. RET emphasizes emotion regulation and strategy learning, crucial for college students navigating challenges in career planning. Through mock interviews, stress management training, and other activities, students learn how to effectively manage emotions and maintain a positive mindset, enabling them to calmly face setbacks in career choices and job hunting. The group counseling format fosters opportunities for mutual learning and communication. Guided by RET, students engage in group discussions, role-playing, and other activities, not only enhancing self-awareness but also learning how to communicate and collaborate effectively with others, skills vital for future career development.

The application of Rational-Emotive Therapy in comprehensive group counseling provides effective technical support for enhancing college students' career planning abilities. By identifying, challenging irrational beliefs, engaging in cognitive restructuring, and conducting behavioral experiments, students can strengthen their self-awareness, set reasonable goals, improve their ability to cope with challenges, and promote teamwork and communication. These techniques for college students to confidently and rationally navigate their career paths.

Future research should focus on customizing RET intervention programs based on the characteristics and needs of different populations to enhance specificity

and effectiveness. Additionally, integrating RET with modern information technology, such as developing online group counseling platforms, is an area worth exploring. Finally, strengthening longitudinal studies on the long-term effects of RET is crucial for comprehensively assessing its intervention outcomes and promoting its widespread adoption and development.

2) Cognitive Behavioral Therapy

Cognitive Behavioral Therapy (CBT), which began to develop in the 1970s, is characterized by its focus on problem-solving, short treatment duration, and strong structuring. CBT posits that emotional and behavioral responses are not directly triggered by events themselves but by an individual's cognition, evaluation, and interpretation of these events. Beck stated, "Maladaptive behaviors and emotions stem from maladaptive cognitions" (Beck, 1970). CBT typically starts with correcting irrational cognitions to change maladaptive behaviors and emotions, and then strengthens rational cognition through changes in behavior and improvement in emotions. This approach integrates cognitive therapy and behavioral therapy. Common therapeutic methods include Ellis's Rational Emotive Behavior Therapy (REBT) and Beck's Cognitive Therapy (CT).

a. Rational Emotive Behavior Therapy

Rational Emotive Behavior Therapy (REBT) was proposed by American clinical psychologist Albert Ellis in 1950. This therapy is based on an important theoretical model known as the ABC model. It uses rational analysis and logical reasoning to help individuals correct irrational beliefs into rational cognitions, ultimately addressing emotional and behavioral issues.

b. Beck's Cognitive Therapy

Beck's Cognitive Therapy (CT) was developed by Aaron Beck in the 1970s. It aims to improve individual emotions and behaviors through cognitive treatment, thereby enhancing psychological health. CT is a widely used and internationally impactful short-term psychotherapy method. Its development can be traced back to Beck's work on treating depression. This therapy posits that maladaptive cognition

produced abnormal emotions and behaviors, with cognition serving as the mediator of emotions and behaviors. It identifies three cognitive patterns: automatic thoughts, underlying rules, and core beliefs, all of which are linked to maladaptive emotional and behavioral patterns.

Cognitive Behavioral Therapy is based on a structured psychoeducational model, emphasizing the proactive role of the client both during and outside of therapy, and assigning them more responsibility. In the therapeutic process, the client and therapist collaborate, with the therapist helping the client understand the relationship between their psychological and behavioral issues and irrational cognition. This therapy focuses on specific, structured, goal-oriented issues and is educational and short-term in nature. Review of domestic and international studies on CBT indicates that its interventions generally include adjustments and training in cognition, emotion, and behavior, and are applied to issues such as internet addiction, obsessive-compulsive disorder, and empathy skills.

According to cognitive behavioral therapy theory, there is a causal relationship between cognition, emotion, and behavior. It suggests that it is not the events themselves that influence behavior but the individual's perceptions, and even persistent core erroneous beliefs, that are the fundamental causes of behavioral impacts (Zeng, 2013). This involves analyzing an individual's internal state through surface manifestations of their speech and behavior, identifying inappropriate cognitive patterns, and their inherent connections to psychological and behavioral issues. This helps clients gradually recognize logical errors and build a more scientifically rational way of thinking, guiding their behavior. When applying cognitive behavioral therapy, it is essential to start with rational thinking, focus on changing cognition and behavior, and address psychological issues based on actual conditions. In a positive therapeutic relationship, the application of cognitive behavioral techniques can achieve relatively good results in a shorter period.

Cognitive-Behavioral Therapy (CBT) Techniques in Group Counseling

Cognitive Restructuring

CBT emphasizes the interplay between thoughts, emotions, and behaviors, positing that negative cognition contributes to maladaptive emotions and behaviors. In group counseling, cognitive restructuring techniques aid students in identifying and altering detrimental self-beliefs and cognitive biases related to career choices. For instance, through group discussions and role-playing, students learn to recognize negative career-related thoughts and replace them with more realistic, positive ones. This process not only enhances self-awareness but also bolsters confidence and courage in facing career challenges.

Behavioral Activation

Behavioral activation, a key CBT technique, aims to disrupt the cycle of negative emotions and behaviors by fostering positive actions. In group counseling, career-related activities like mock interviews, job-seeking skills training, and career exploration are designed to motivate students and encourage practical engagement. Participation in these activities enhances job-hunting skills while deepening understanding of personal career interests, abilities, and values.

Exposure and Response Prevention

For students experiencing job-related anxiety and fear, CBT's exposure and response prevention technique offers an effective intervention. This method involves gradually exposing individuals to anxiety-triggering situations while teaching coping skills to alleviate anxiety symptoms and improve resilience. In group counseling, simulated interviews and workplace stress management exercises provide a relatively safe environment for students to confront and overcome their anxieties and fears.

Coping Skills Training

CBT also emphasizes the cultivation of coping skills, including problem-solving, stress management, and interpersonal skills. Group counseling sessions can incorporate lectures, group discussions, and role-playing to impart these skills and encourage their application in daily life. For example, simulating conflict resolution scenarios equips students with communication and interpersonal skills vital for

navigating the workplace, thereby enhancing their career adaptability and competitiveness.

Group education and cognitive reconstruction, Initially, lectures and educational sessions introduce CBT principles and techniques, fostering trust and understanding among students. Aligning with career planning themes, students are guided to identify and challenge negative thought patterns related to career choices and development, facilitating cognitive reconstruction. This fosters more positive self-perceptions and career attitudes. Scenario simulation and behavioral activation, scenario simulations offer realistic career exploration and job-seeking experiences. Activities like mock interviews and career role-playing engage students in practical skill-building and challenge confrontation. Such experiences elevate job-hunting proficiency while motivating students to actively engage in career planning. Mutual support and emotional expression. Group counseling fosters a supportive and learning environment where students share experiences and emotions, offering mutual encouragement and guidance. Through group discussions and sharing sessions, students express career doubts and anxieties, learning coping strategies from peers. This communal setting strengthens a sense of belonging and self-confidence. Collective practice and skill consolidation. In later stages, students engage in collective CBT skill practice and application. Group discussions, role-playing, and case analyses consolidate skills learned in educational sessions and introduce additional methods for tackling career challenges. This collective endeavor fosters learning and growth through interaction, enhancing practical application abilities in career planning.

In conclusion, the application of CBT techniques in group counseling offers robust support for enhancing university students' career planning capabilities. Through cognitive restructuring, behavioral activation, exposure and response prevention, and coping skills training, students can better recognize and address challenges in their career planning journeys. Incorporating CBT based group counseling models into career planning education is therefore of significant importance and value. Future research may further explore the efficacy of CBT techniques across diverse

populations and occupational contexts, refining and optimizing relevant intervention strategies.

Wu (2011) found that the core focus of CBT treatment is consistent: correcting irrational cognition and behavior. Liu (2019) utilized Rational Emotive Behavior Therapy, self-guided training, and social anxiety management training, finding that these techniques could alleviate and eliminate negative emotions by changing individual cognition. Cao(2017) summarized common techniques in cognitive behavioral therapy as: cognitive restructuring techniques, mental health education, assigning homework, and addressing problems encountered in daily life.

3) Behavior Therapy

Behavior Therapy encompasses a variety of treatment methods developed by theorists such as Watson, Pavlov, Skinner, and Eysenck, based on the principles of behaviorism. The fundamental premise of Behavior is that behavior is the result of learning; maladaptive behaviors are acquired through learning and can also be corrected through new learning. In group counseling, Behavior Therapy is applied with the following key features: it uses behaviorism terminology to describe and analyze issues and set corresponding treatment goals; all methods and techniques are directed at the external behaviors or symptoms displayed by group members; maladaptive behaviors or new behaviors are objectively measured and assessed; and learning principles are followed to facilitate behavioral change among group members (Ding, 2007).

Behavior focuses on enhancing group members' self-control through learning and training, thereby correcting abnormal behaviors through emotional control and behavioral regulation. Common techniques and methods in Behavior group counseling include: reinforcement, homework assignments, feedback, cognitive restructuring, group systematic desensitization, group relaxation training, modeling, and role-playing.

Behavior Therapy, rooted in the premise that behaviors are malleable and can be shaped through learning, utilizes various techniques to modify undesired

behaviors and instill more adaptive ones(Ryan,2010). In the context of group counseling for career planning, these techniques include:

Cognitive Restructuring: It aids members in identifying and replacing negative self-talk with more objective and empowering beliefs, thereby fostering self-confidence in career-related decisions.

Systematic Desensitization: Addressing fears and anxieties related to career uncertainties, this technique exposes individuals to gradual exposure of feared scenarios while employing relaxation techniques, facilitating emotional resilience.

Relaxation Training: Enhancing self-control and managing stress, relaxation methods like deep breathing and progressive muscle relaxation help maintain composure during the decision-making process.

Role-Playing: Allowing for simulated experiences of career-related scenarios, role-playing fosters experimentation and adaptability in facing various career challenges.

Modeling: Presenting examples of successful career decision-making encourages students to emulate positive behaviors and strategies.

Reinforcement: By positively reinforcing adaptive behaviors, students are motivated to persist in their efforts towards informed and confident career choices.

Cognitive restructuring and modeling enhance students' belief in their abilities to navigate the career landscape, fostering self-efficacy. Role-playing and relaxation training encourage more extensive and fearless exploration of various career paths. Systematic desensitization and reinforcement mechanisms ensure students approach career decisions with a balanced mind, making choices based on reason rather than impulsivity.

Cognitive-Behavioral Group Counseling refers to combining cognitive therapy and Behavior Therapy in a group setting. It employs methods such as disputing irrational beliefs, cognitive homework, rational emotive imagery, and restructuring techniques to help group members alter irrational cognitions, emotions, attitudes, and behaviors.

Relaxation training is one of the most widely used techniques in Behavior Therapy. It is a counseling and therapeutic method developed based on psychological experiments. The primary feature of behavioral therapy is its focus on observable external behavior changes. Behavioral therapy asserts that changing "behavior" will consequently alter "attitudes" and "emotions." It is more concerned with setting specific treatment goals (Zhao, 2022).

In conclusion, the application of Behavior Therapy techniques within group counseling significantly contributes to the advancement of college students' career planning abilities. By leveraging the power of cognitive restructuring, systematic desensitization, relaxation training, role-playing, modeling, and reinforcement, students can develop a more confident, adaptable, and informed approach to their career journey. Future research should continue to investigate the efficacy of these techniques in diverse career decision-making contexts and explore synergies with other counseling frameworks to enhance the overall effectiveness of career planning interventions.

2.3.4 Research on Integrative Group Counseling and Career Planning

Group counseling in career planning is primarily rooted in theories of career development, social cognitive career theory, rational emotive therapy, and career decision-making self-efficacy (Fan, China, 2010). Professor Fan suggests that group psychological counseling not only alleviates individual psychological issues but also effectively enhances psychological qualities and develops psychological potential.

Preliminary research has explored the efficacy of group psychological counseling for college students' employment concerns. For instance, (Chen & Zhang, 2021) formed employment counseling groups to intervene with college students experiencing employment anxiety and analyzed the results. Their study found that intervention measures exist significant differences between before and after the intervention, indicating that psychological counseling combined with behavioral therapy effectively reduces employment anxiety levels among college students. Additionally, research on group psychological intervention effects often focuses on improvements in other psychological issues faced by students.

Zeng (2011) utilized the Employment Anxiety Self-Assessment Scale and the State-Trait Anxiety Inventory to test college students, identifying those with significant employment anxiety, and provided case interventions using short-term counseling methods. The results indicated that this intervention effectively reduced students' employment anxiety levels. Zhang(2012) targeted senior students at Southern Medical University, using the Stress and Coping Interaction Model for group intervention with students experiencing significant employment anxiety. Results showed that while the anxiety levels in the control group increased over time, the intervention group experienced a decrease in anxiety levels, though this difference was not statistically significant.

Chen (2020) employed group intervention techniques based on cognitive reappraisal, focusing on university graduates. After applying solution-focused interventions to students with high employment anxiety, the study found a significant improvement in career decision-making self-efficacy among the students. Follow-up surveys indicated that the students' employment anxiety levels did not rebound, demonstrating the effectiveness of this technique in alleviating employment anxiety. Liu(2019) also used cognitive reappraisal for intervening in employment anxiety among vocational college students and found that this approach significantly reduced their levels of employment anxiety.

Throughout the group intervention process, individuals gain new self-cognition and significant improvements in interpersonal communication skills. Group members are able to apply anxiety-relief and emotional expression techniques learned during the intervention to their subsequent lives. Therefore, this study proposes combining group interventions with career planning to enhance college students' career planning abilities.

2.3.5 Application of Integrative Group Counseling in University Students' Guidance

Group counseling, as an intervention strategy based on psychological principles, is a crucial component of psychological guidance for university students. It utilizes collective methods and psychological techniques to provide guidance and

support, aiming to enhance communication, learning, and exploration through interpersonal interactions among members. This process helps individuals develop positive attitudes and behavior patterns and improves their adaptability (Smith & Jones, 2010).

In the context of career planning for university students, the effectiveness of group counseling is particularly evident, primarily in the interactions between students and between students and counselors. During this process, members observe, feel, experience, imitate, and learn from each other, continuously reflecting and summarizing their experiences. This approach fosters a better understanding of others, helps clarify personal career goals, and facilitates rational career planning. Additionally, it enh ances students' interpersonal skills and improves their professional competencies and skill levels (Johnson, 2015).

The theoretical foundation of group counseling incorporates a broad range of psychological theories, including group dynamics, career development theory, psychoanalytic theory, social learning theory, positive psychology, and interpersonal communication theory. These theories provide a scientific basis and methodological guidance for the design and implementation of group counseling (Taylor & Rogers, 2012).

Research on the functions of group interventions, as noted by Corey & Corey (2009), highlights their primary objective of creating a harmonious interpersonal environment. This environment promotes communication and emotional sharing among members, fosters trust, helps individuals explore their development directions, and teaches acceptance and respect for others. It also involves mastering and applying problem-solving methods, approaching outcomes with an open attitude, and integrating group experiences into personal life to enhance life skills. Chen(2016) found that group interventions can create a positive classroom atmosphere, enhance teacher-student interaction, and integrate knowledge learning with personal growth. Xing(2014) emphasized the significant and long-term positive effects of group interventions on improving university students' interpersonal skills. Li(2018) found through comparative

research that group interventions are more effective than mental health lectures in reducing anxiety and shyness and improving communication skills with strangers.

Regarding the scope of group interventions, they are applicable to a wide range of age groups, from elementary school children to retirees, with a primary focus on university and high school students. This distribution may be attributed to the convenience of working with student populations and the increased attention from governments and society towards student mental health issues. Research content for elderly individuals mainly focuses on mental health, well-being, and cognitive function, while studies on younger people address topics such as interpersonal relationships, academic procrastination, employment anxiety, and social anxiety. These studies generally cover the primary psychological needs of the respective age groups. In terms of methods, although various approaches like sandplay therapy and music intervention are utilized, cognitive therapy and emotion therapy remain the most commonly employed techniques (Brown & Clarke, 2017).

In summary, the literature reviewed in this section underscores the theoretical foundations, conceptual evolution, and practical applications of integrative group counseling within the context of university student development. Integrative group counseling, which synthesizes techniques from multiple therapeutic schools such as cognitive-behavioral therapy, person-centered therapy, rational emotive behavior therapy, and narrative therapy, has emerged as a comprehensive and effective modality in psychological and educational interventions. Research has demonstrated its adaptability and effectiveness in enhancing self-awareness, emotional regulation, interpersonal skills, and particularly, career planning competencies among university students. Moreover, the reviewed studies highlight that integrative group counseling provides not only individualized psychological support but also facilitates collective growth and peer reinforcement, making it well-suited for addressing the complex developmental needs of emerging adults. These findings provide a solid theoretical and empirical foundation for the subsequent design and implementation of a structured

group counseling program tailored to improving career planning abilities among Chinese university students.

2.4 Research Conceptual Framework

Phase1

In the first phase of the study, the conceptual framework is designed to construct a localized measurement model for assessing career planning ability among Chinese university students. This phase focuses on identifying the core structural components of career planning, Self-Cognition, Social Cognition, Career Cognition, Career Decision-Making, Plan of Career, and Career Implementation (Chen & Liu, 2022)- and developing a valid and reliable instrument tailored to the target population. A large-scale survey is conducted to assess the current status of CPC across these six dimensions, analyze score distributions and variations, and provide empirical evidence for the intervention strategies implemented in Phase Two.

Phase 2

The second phase adopts a quasi-experimental design, implementing eight sessions of Integrative Group Counseling for the experimental group. This intervention aims to evaluate the effectiveness of Integrative Group Counseling in enhancing key dimensions of career planning. The Integrative group counseling intervention is structured into three stage: 1) Initial stage, employing person-centered and psychoanalytic techniques to create a safe group atmosphere and facilitate initial self-reflection; 2) Working stage, applying cognitive-behavioral therapy (CBT), rational emotive behavior therapy (REBT), and narrative techniques to correct irrational beliefs and strengthen problem-solving skills; 3) Ending stage, incorporating career construction theory and solution-focused strategies to support participants in formulating realistic career goals and implementation plans. Through structured group sessions, participants are guided to deepen their self-cognition, career cognition, and social cognition, enabling them to identify personal strengths and adopt proactive strategies for career planning. Pre-test, post-test, and follow-up assessments are employed to evaluate the unique contribution of Integrative Group Counseling to the enhancement of key

dimensions of career planning (Winer, Brown, & Michels, 1991). This integrative intervention systematically cultivates self-cognition, facilitates the clarification of career goals, and promotes effective decision-making and implementation, thereby strengthening overall career planning competencies.

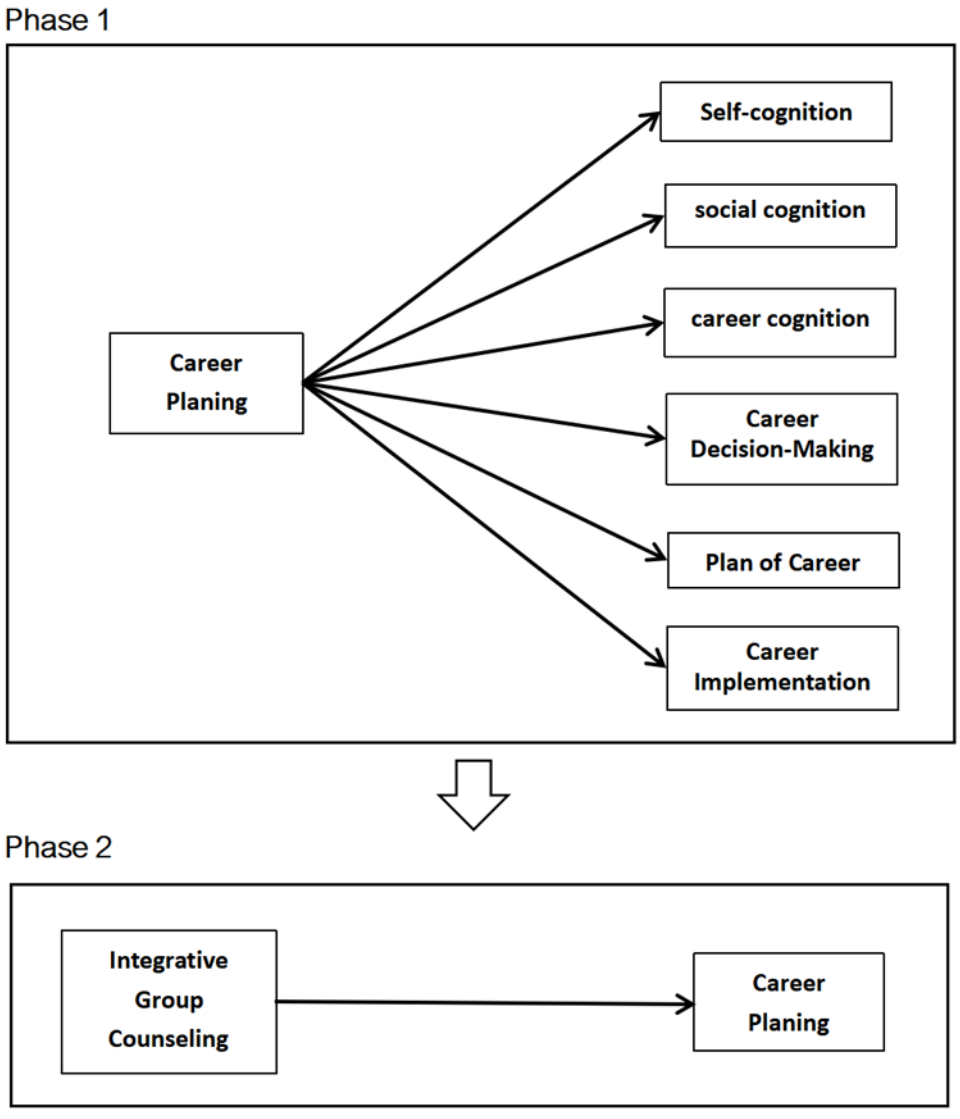


Figure 2 Conceptual framework of phase 1 and phase 2

2.5 Research Hypotheses

Phase 1

Hypothesis 1: The model development for measuring career planning demonstrates good fit with empirical data, indicating its validity and reliability as a measurement tool.

Phase 2

Hypothesis 2: University students who participate in integrative group counseling (experimental group) will have a higher career planning score than before participate in integrative group counseling.

Hypothesis 3: University students in the experimental group who participated in integrative group counseling will increase in career planning score compared to those in the control group, both immediately after the intervention and during the follow-up period.

CHAPTER 3
METHODOLOGY

This study employed a mixed-methods approach, conducted in two phases, to obtain research results through a comprehensive analysis of both quantitative and qualitative data.

The initial phase involved focus group interviews and the development and revision of the questionnaire. First, preliminary data were collected through focus group interviews, which were then used to develop and revise the survey questionnaire. Following this, the revised questionnaire is distributed for large-scale testing. The collected data was analyzed in detail to verify the reliability and validity of the questionnaire, ensuring the scientific rigor and reliability of the research tools.

In the second phase, a sample of 20 valid participants was selected to conduct a career planning group counseling experiment. This experiment utilized an Integrative Group Counseling approach, focusing on four core dimensions: self-cognition, social cognition, career cognition, and career decision-making. The "University Students' Career Planning Scale" serves as the primary quantitative assessment tool, complemented by qualitative evaluation methods to comprehensively examine the actual effects of group counseling on university students' career planning. Additionally, the reliability and validity of the "University Students' Career Planning Scale" are re-validated to ensure the accuracy and effectiveness of the research data.

3.1 Phase I

3.1.1. Population and Sample

This study selected a sample of 4,060 undergraduate students from the third and fourth years at Yunnan Arts University in China.

1) First Sample

In the first phase of the study, a random sample of 5 students was selected from the third and fourth-year undergraduates at Yunnan Arts University for focus group interviews.

2) Second Sample

In the data collection phase, a stratified random sampling method was employed. The study population consisted of third and fourth-year undergraduates at Yunnan Arts University, including students from the college of Music, college of Fine Arts, college of Design, college of Drama, college of Dance, college of Film and Television, and college of Arts Management, totaling 4,060 students.

To precisely determine the required total sample size for this study, we adopted the sample size calculation formula proposed by Taro-Yamane, which is widely recognized and applied in social science research. In the research design, we cautiously set the expected margin of error (e) at 0.05 to ensure the accuracy and reliability of the study. After a series of rigorous mathematical calculations, we obtained an approximate total sample size of 364 individuals. Given the potential for sample loss, missing data, incorrect entries, or other unforeseen factors that could invalidate some data during actual operation, this study adopted a conservative strategy by increasing the sample size to 400 individuals. This sample size represents 9.85% of the total student population, which not only ensures the representativeness of the study but also provides a sufficient information base for subsequent data analysis and interpretation of results.

In the specific implementation phase of sample selection, this study adopted the simple random sampling method, which is widely recognized in statistics, to minimize sampling bias and ensure the representativeness of the sample and the reliability of the research findings. Based on a predetermined sampling ratio of 9.85%, students were randomly selected according to the specific enrollment numbers of each faculty, with the exact number of sampled participants detailed in Table 2. This meticulous sampling strategy not only achieved comprehensive coverage across various art-related majors but also ensured a balanced distribution of samples across key dimensions such as academic year and major, thereby laying a solid foundation for in-depth analysis and accurate conclusions.

Table 2 Sample Extraction Details

Faculty	Year	Total Number (n)	Sample Size (n*9.85%)	Proportion of Total Sample
Faculty of Music	Junior	360	35	8.87%
	Senior	470	46	11.58%
Faculty of Fine Arts	Junior	380	37	9.36%
	Senior	510	50	12.56%
Faculty of Design	Junior	320	32	7.88%
	Senior	440	43	10.84%
Faculty of Drama	Junior	250	25	6.16%
	Senior	340	33	8.37%
Faculty of Dance	Junior	114	11	2.81%
	Senior	236	23	5.81%
Faculty of Film and Television	Junior	170	17	4.19%
	Senior	230	23	5.67%
Faculty of Arts Management	Junior	100	10	2.46%
	Senior	140	14	3.45%
Total		4060	400	100%

3.1.2. Research Instrument

1) Semi-structured Interview Questionnaire

This study focused on undergraduate students in their third and fourth years at Yunnan Arts University, comprising a total population of 4,060 students. Using a random sampling method, five students were selected for focus group interviews. The purpose of these interviews was to gain an in-depth understanding of the current state of career planning among university students and its influencing factors. The interviews specifically addressed six core dimensions: self-cognition, social cognition, career cognition, Career Decision-Making, Plan of Career, and Career Implementation.

The design of some interview questions is as follows: Do you have a clear career goal? If so, please describe it briefly. What careers do you believe align best with

your interests and values? What steps do you plan to take to achieve your career goals? How do you evaluate the impact of your university major on your career planning?

These open-ended questions were designed to comprehensively explore the current career planning situation among university students from multiple dimensions and to conduct a detailed analysis in preparation for the research.

2) University Students' Career Planning Scale

Based on the data collected from the focus group interviews, we scientifically and comprehensively revised the "Career Planning Scale," resulting in the final version of the "Chinese University Students' Career Planning Scale." The revised scale consists of 30 items, each designed in a five-point Likert scale format. Participants are required to select from the options "Strongly Agree," "Agree," "Somewhat agree," "Disagree," or "Strongly Disagree" to express their opinions based on their own situations. This design aims to collect and analyze data more accurately.

Table 3 Examples of questions included in the questionnaire are as follows

Question	Strongly agree (5 points)	agree (4 Points)	Somewhat agree (3 points)	Disagree (2 points)	Strongly Disagree (1 Point)
1. I have a clear understanding of my strengths and weaknesses.					
2. I believe my personality is suited to my target career.					
3. I have a clear understanding of my personal interests.					

The response options use a five-point scoring system: "Strongly Agree" is scored as 5 points, "Agree" as 4 points, "Neutral" as 3 points, "Disagree" as 2 points, and "Strongly Disagree" as 1 point. The total score is calculated by summing the scores for each item. A higher total score indicates clearer career planning, whereas a lower score reflects more ambiguous career planning.

3) Instrument Development and Quality Examination

This study paid meticulous attention to the development and evaluation of research instruments through a comprehensive process, which includes the following detailed steps:

Literature Review: A thorough review of existing literature was conducted to identify established scales used in previous studies for measuring self-concept, cognitive emotion regulation strategies, and depression. This step ensured that the instruments applied in this study were grounded in theoretical foundations and practical applications.

Instrument Development: Based on the literature review, research instruments were carefully designed. Drawing from scales used in prior studies, the instruments were developed to assess the characteristics of variables involved in this study, ensuring the clarity and comprehensiveness of measurement items.

Advisor Consultation: Draft instruments were critically appraised by the dissertation advisor and co-advisor. Their methodological and domain-specific feedback informed substantive revisions, guaranteeing conceptual alignment with the study's objectives and theoretical framework.

Iterative Revision: Recommendations from the advisory panel were systematically incorporated. This phase focused on optimizing item wording, refining scale structure, and reinforcing adherence to established psychometric standards concerning clarity, reliability, and construct validity.

Expert examination: The revised instruments were subsequently evaluated by a panel of five specialists (two from China and three from Thailand) in psychology and guidance. Using the Item–Objective Congruence (IOC) approach, each item's relevance to its operational definition was quantified. Items not meeting predetermined IOC thresholds were modified or removed to strengthen content validity.

Refinement and validation: Discrepancies highlighted during expert review prompted a final cycle of adjustments. The resulting instruments exhibit robust content

validity and are positioned for reliable measurement of the focal constructs in the empirical phase of the study

Through this systematic, evidence-based developmental trajectory, the measurement tools attained the methodological rigor requisite for doctoral-level research, ensuring accurate and dependable assessment of all study variables.

The criteria for the experts' opinions were as follows:

Score +1 means that the sentence/phase/question indicates what the instrument is measuring

Score 0 means not sure that the sentence/phase/question indicates what the 100 instrument measures

Score -1 means Sure that the sentence/phase/question does NOT indicate what the instrument is measuring

After collecting the completed IOC evaluation forms from all expert reviewers, the Item-Objective Congruence (IOC) values were systematically calculated to evaluate the degree of consistency between each item—whether a statement, phrase, or question—and its corresponding operational definition. In accordance with the criteria proposed by Choochom (2002), each item was required to obtain an IOC score of at least 0.5 to be considered valid. During the revision phase, only items meeting or exceeding this threshold were retained in the finalized version of the instrument, thereby ensuring acceptable levels of content validity and alignment with the defined constructs.

The Careers Planning Scale of Chinese University Students consists of 60 items and undergoes Item-Objective Congruence (IOC) testing using the expert evaluation method. The scoring results of the five experts for the items are as follows: 0.9-0.97. After summarizing the scores of the three experts, the mean IOC score of all items is 0.933, meeting the validity standard of $\geq$0.5. This indicates good consistency between the scale items and measurement objectives.

The last modified instruments were used for data collection.

3.1.3. Data Collection

After obtaining approval from the Human Subjects Ethics Review Committee, the study communicated the research guidelines clearly to third- and fourth-year undergraduates at Yunnan Arts University in China. The communication included a detailed outline of the questionnaire distribution procedure, the data collection timeline, research framework, and potential challenges that might be encountered. Once formal permission for data collection was granted, the researchers personally carried out the data collection process.

The first step involved using focus group interviews as a qualitative research method. Five students, who exhibited distinct and representative characteristics in career planning, were selected as interview subjects. These interviews were conducted face-to-face and one-on-one in a semi-structured format. The content from these interviews was then organized, analyzed, and used to develop the "Career Planning Survey for Chinese University Students."

The second step was distributing the "Career Planning Survey for Chinese University Students." Before administering the questionnaire, we conducted a uniform training session, which included detailed instructions on the use of the guiding script, control of testing time, and addressing any questionnaire-related issues to ensure standardization and consistency in the administration process. In a classroom setting, the students who constituted the research sample completed the questionnaire online by scanning a QR code. This approach aimed to ensure that data collection was convenient and efficient while minimizing errors associated with paper-based questionnaires. After the administration, all completed questionnaires were checked for completeness. Data were assigned codes as a standard and the scores were reviewed. The data were then exported and organized, laying the foundation for subsequent data analysis.

3.1.4 Data completeness

1) All questionnaires were checked for completeness.

2) Codes were assigned for data as a criterion and the questionnaire's scores were checked.

3) The data were analyzed statistically

3.1.5 Data Analysis

1) Basic analysis of sample, univariate normality, and instruments which were Mean (x), Standard Deviation (SD), Skewness, Kurtosis, Pearson's correlation, Item-Objective Congruence (IOC), and Cronbach's alpha-coefficient.

2) Exploratory factor analysis (EFA) was used to explore the underlying structure among items (observed variables; Hair et al., 2010) in expected multidimensional measurements, which were self-cognition, social cognition, career cognition, career decision-making, plan of career, career implementation. A randomized split of the data in the sample was used, with the ratio of 10 observations to 1 variable as an acceptable sample size (Hair et al., 2010).

Table 4 Measurement Model of Validity

Indices	Fit Indices
χ^2	Not significant
GFI	> 0.90
AGFI	> 0.90
CFI	> 0.90
RMSEA	< 0.05
SRMR	< 0.05

Prior to conducting the EFA, two indicators to determine whether the sample was appropriate for such an analysis were the Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test of Sphericity (Hair. et al., 2010). The purpose of both tests is to measure the sampling adequacy in order to determine the factor-ability of the whole data set or whole matrix (Johnson & Wichern,2007). If Bartlett's test of sphericity is large and significant, and the KMO measure is greater than 0.50, it can be assumed that the factor ability in the data set does exist (Hair. et al., 2010).

3) To evaluate the measurement model, confirmatory factor analysis (CFA) was conducted on two levels: (a) six single-factor scales—self-cognition, social cognition, career cognition, career decision-making, career planning, and career implementation—and (b) an overarching, second-order construct representing overall career planning. Parameter estimation employed the maximum-likelihood (ML) method, which presupposes that the observed indicators are continuous and exhibit multivariate normality (Hair et al., 2010).

Model adequacy was assessed using multiple goodness-of-fit statistics: Normed chi-square (χ^2/df): values < 5.0 indicate an acceptable fit (Schumacker, 2004). Comparative Fit Index (CFI) and Non-Normed Fit Index (NNFI/TLI): coefficients > .90 suggest a satisfactory model (Bentler & Bonett, 1980; Hair et al., 2010). Root Mean Square Error of Approximation (RMSEA): values between .03 and .08 reflect good fit (Hair et al., 2010). Standardized Root Mean Square Residual (SRMR): estimates < .05 are ideal, while values up to .08 remain acceptable (Hu & Bentler, 1999; Kelloway, 1998). Goodness-of-Fit Index (GFI): values > .90 denote adequate fit (Kelloway, 1998). These criteria collectively determined the extent to which the hypothesized measurement structure corresponded to the empirical data, thereby confirming the construct validity of both the unidimensional and multidimensional scales.

3.2 Phase II

3.2.1 Participants

Based on the data collected during the first phase of the study and through detailed analysis of the distribution of scores from the Career Planning Scale, we precisely identified a subset of students whose scores were in the lower quartile (i.e., below the 25th percentile) of the overall sample. Within this notably representative subgroup, 20 students who exhibited significant weaknesses in career planning ability were selected as the core research subjects. In-depth interviews were conducted to further confirm that all selected students demonstrated a strong willingness for career exploration, maintained a rigorous and serious attitude towards the entire counseling

activity, and committed to actively engaging in the group, maintaining harmonious relationships with others, and being open and interactive in the group environment.

To ensure the objectivity and generalizability of the experimental results, we adhered to the principle of randomization and employed an unbiased allocation mechanism to equally distribute these students into two experimental groups: the experimental group and the control group, with each group consisting of 10 students. This design aims to minimize potential biases and ensure the reliability and comparability of the experimental results. The experimental group received systematic integrative group counseling interventions, while the control group remained unchanged without any experimental intervention, serving as the baseline for effect comparison.

3.2.2. Research Instruments

1) University Students' Career Planning scale

This study employs the Career Planning scale for University Students as a core research tool. The scale, based on scientific scale design principles, aims to comprehensively and systematically collect multidimensional data on university students' cognition, attitudes, behaviors, and needs related to career planning. Through in-depth analysis of the scale data, the current status, characteristics, and issues of university students' career planning can be revealed, providing an empirical foundation for subsequent research. The design of this questionnaire considers the unique characteristics of the university student population and incorporates the latest research findings in career planning from both domestic and international sources, ensuring high reliability and validity. This represents a significant innovation in the study.

Table 5 Some items of the Scale

Item	Strongly Agree (5 points)	Agree (4 points)	Somewhat Agree (3 points)	Disagree (2 points)	Strongly Disagree (1 point)
1. I have a clear understanding of my strengths and weaknesses.					
2. I believe my personality is suited to my target career.					
3. I have a clear understanding of my personal interests.					
4. I believe my values align with the requirements of my target career.					
5. I have a clear understanding of my career motivations.					
6. I believe my communication skills meet the requirements of my target career.					
7. I believe my leadership skills meet the requirements of my target career.					
8. I believe my problem-solving skills meet the requirements of my target career.					
9. I believe my innovation skills meet the requirements of my target career.					

2) Integrative Group Counseling

Integrative Group Counseling is another critical research tool used in this study. It is a form of counseling conducted in a group setting, where a professional counselor guides group members to collectively explore and address issues related to career planning through interactive discussions. The study applies Integrative Group Counseling to enhance university students' career planning abilities, aiming to deepen students' self-cognition and occupational understanding, improve career decision-making skills, and develop more scientific and rational career plans. The innovative

aspect of this research method lies in its combination of individual and group counseling advantages, addressing individual differences while leveraging group support. This approach provides a new practical pathway and theoretical support for enhancing university students' career planning abilities, contributing significantly to both academic research and practical applications.

3) Group Observation Record Form

This research tool is operated by specially trained observers who systematically observe and record key information about group interactions, member performance, and activity progress during each group session. This observation method helps capture subtle changes in group dynamics and provides rich, objective empirical data for subsequent analysis, thereby enhancing the accuracy and credibility of the research. Its innovation lies in combining quantitative and qualitative observation indicators, allowing the study to more comprehensively reveal the internal mechanisms of group activities and their impact on student development. This provides a new perspective and methodological support for group research in the educational field.

4) Phase Feedback Form

The Phase Feedback Form is a feedback tool completed by group members at the end of each unit activity. It is designed to collect members' subjective impressions and evaluations regarding the content, format, and effectiveness of the activities. This form enables researchers to gain insights into members' personal experiences, learning outcomes, and suggestions for improvement, allowing for real-time monitoring and dynamic adjustment of the group activities. The innovation of this tool lies in its emphasis on member subjectivity and participation, making the research more reflective of the actual impact of group activities on individual growth. Additionally, the Phase Feedback Form provides direct, multidimensional evidence for assessing the effectiveness of group interventions, contributing to the enrichment and refinement of theoretical and practical frameworks in educational group interventions.

3.2.3 Research Design

1) Research Method

This phase employs a quasi-experimental design, which includes a control group and pre-test, post-test and follow-up measures, along with repeated measures. (Winer, Brown, & Michels, 1991)

E	T1	X	T2	T3
C	T1		T2	T3

E: Experimental Group C: Control Group X: Treatment

T1: Pre-test T2: Post-test T3: Follow-Up

Figure 3 Quasi-Experimental Design with Control Group and Pre-test/ Post-test Including Repeated Measures

In the experiment, the intervention group will receive the integrative group counseling intervention, while the control group will not receive any intervention.

2) Objectives of Integrative Group Counseling

The objective of the group counseling activities is to explore whether they can help University students enhance their self-cognition, clarify career goals, improve career decision-making abilities, and develop practical career development plans, thereby promoting a comprehensive improvement in their career planning skills.

3) Group Name and Nature

Group Name: "Setting Sail for the Future: Career Planning Group Counseling for University Students"

Group Nature: A closed (full participation), homogeneous (similar backgrounds), and structured (facilitated by a guide) growth group.

4) Number of Integrative Group Counseling Sessions

Sessions:8 sessions

Duration per Session: 1 hour

5) Implementation of the Integrative Group Counseling Plan

Over the years, integrative group counseling has become increasingly important in mental health education courses and is a more effective teaching approach in psychological education. By drawing on theories related to depression tendencies and integrating relevant technologies of group counseling, a complete integrative group counseling has been designed.

Integrative group counseling uses various psychological theories and techniques to guide group members to participate in interactions together, so that they can get to know themselves and establish close and friendly bonds with members in the interaction process. Integrative group counseling needs to attach importance not only to related technologies and operations but also to the leading role of leaders. At the end of each group activity, the gains of this activity should be reviewed and sorted out, and positive feedback should be given to members to consolidate their positive performance. Finally, through the ending link of assigning homework, the impetus for positive change among members is extended and applied to real life. Based on this, each integrative group counseling activity lasts 1 hour, twice a week for five weeks, generally categorized into the initiation stage, growth stage (transition process, norming process, working process), and closure stage.

a. Preparation Phase

In the preparation phase of this study, the group objectives were defined, and the counseling plan was designed and revised.

Determination of Group Objectives: Utilize integrative group counseling techniques to enhance members' career planning abilities. Improve members' levels of self-cognition, social cognition, and career cognition to facilitate career decision-making. Assist members in achieving appropriate career positioning based on self-exploration and occupational exploration.

Basis for Defining Objectives: Considering that the participants from the experimental group are all third-year and fourth-year undergraduates, who are either about to graduate or pursue further studies, it is crucial to raise their awareness of career

planning. This is one of the primary goals of group counseling. Based on the researcher's professional expertise, the main focus of the counseling will be on the exploration of self and the exploration of occupations within career planning.

b. Determination of Group Philosophy and Theoretical Framework

Super's Career Development Theory

Super posits that career development is a lifelong process of growth and learning, which can be divided into five stages: growth, exploration, establishment, maintenance, and decline. Each stage presents distinct developmental tasks. According to Super's theory, University students are transitioning from the career exploration stage to the career establishment stage. During this period, personal abilities are rapidly improving, career interests are stabilizing, and expectations for future careers are gradually forming. Many students need to make critical decisions regarding their future careers. Therefore, this study aims to awaken members' career awareness, enhance their career consciousness, and guide them to view career planning issues from a developmental perspective, gradually clarifying their developmental direction.

Trait-Factor theory

The Trait-Factor theory, introduced by Frank Parsons, often considered the "father of career counseling," and later refined by experts such as Williamson, posits that every individual has unique personality traits and abilities that align with specific careers in society. The purpose of career guidance is to help individuals find occupations that match their personal characteristics to achieve an optimal fit between person and job. This theory emphasizes self-cognition, including interests, personality, temperament, and values.

The application of the Trait-Factor theory in University students' career planning is both extensive and profound. It underscores the importance of aligning individual personality traits and abilities with specific occupations in society. This alignment is crucial for helping students clarify their career direction and improve job quality. By utilizing this theory, University students can recognize the requirements of different occupations concerning personal abilities and qualities, thereby developing

more realistic and positive career perceptions. This approach not only aids in forming accurate career views and enhancing self-cognition but also provides rich career information and personalized guidance.

Techniques for Group Counseling

This study employs a combination of psychoanalytic, cognitive-behavioral, and humanistic psychological theories and techniques in designing the program. For instance, psychoanalytic theory's concepts of unconscious processes and early experiences affecting current behavior are used to design activities that explore life dreams to uncover personal identity and reveal subconscious needs. Cognitive-behavioral principles are applied to create warm-up activities that energize the group atmosphere and career values auction activities to clarify career values, with feedback sessions following activities to deepen understanding. Based on reinforcement theory, methods such as encouragement and homework are used to strengthen members' positive behaviors. The humanistic approach's "person-centered" philosophy is reflected in group norms such as sincerity, care, tolerance, understanding, trust, openness, and respect. The counselor's unconditional positive regard, empathy, and responses also embody the person-centered characteristics.

c. Designing the Group Counseling Program

The researcher designed the group counseling program based on the above goals, theoretical framework, and nature of the group. The program consists of eight units, each including specific sub-goals and activities. After each activity, there is a sharing session, discussion, and feedback from the counselor to the members.

Table 6 Overview of the revised integrative group counseling program

Session	Objective	Activities	Methods & Therapectic Techiniques
1. Group Establishment and self-exploration	To establish group trust and initiate self-exploration.	1. Icebreaker Activities 2. Drawing and Analyzing the Career Genogram. Homework: Holland Code Career Interest Inventory Test and MBTI (Myers-Briggs Type Indicator) Career Personality Test	1.group dynamics 2.Examples 3. Homework assignment (CBT)
2. Deepening Self-cognition	Strengthen the understanding of one's own vocational interests and personality.	1. Analysis of Assessment Results of Holland Code Career Interest Inventory Test and MBTI Career Personality Test. 2. Group discussion: emphasizes the importance of self-cognition in career planning Homework: Understanding Current Societal Career Trends	1. Information Giving 2.Cognitive restructuring (CBT) 3. Homework assignment
3. Social Cognition and Career Trends	To gain a deep understanding of current societal career trends, enhance personal Cognition of the job market.	1. Group Discussion on Career Trends and Industry Prospects. 2. Exploration of Career Information. Homework: Understand the development trends of careers that interest	1. Cognitive Information Processing 2. Homework assignment (SCCT)
4. Career Cognition and Industry Exploration	To gain a deep understanding of specific careers and industries, enhance career Cognition.	Conduct simulated professional interview activities to enable members to gain an in-depth understanding of the daily work content, required skills, and industry development trends of their target professions.	1. Role Playing 2. Positive Reinforcement
5. Career Decision-Making Skills	To enhance participants' career decision-making skills, assisting them in assessing career options more rationally and comprehensively	1. Explain the content of career decision-making, emphasizing its crucial role in career development. 2. SWOT Analysis 3. Decision-Making Balance Sheet Exercise. Homework: Set SMART Goals.	1. Information Giving 2. Goal-Setting 3. Homework assignment (SCCT)

Table 6 (continued)

Session	Objective	Activities	Methods & Therapectic Techiniques
6. Work Plan and Goal Setting	To develop specific work plans and short-term goals to support personal career development.	1. Setting SMART Goals. 2. Planning a Goal Summarizes the importance of action plans in career planning, emphasizing the crucial role of clear steps and timelines in achieving goals.	1. Goal Clarification 2. Simulation
7. Career Implementation Strategies and Resource Utilization	Help participants more effectively advance their career development plans.	1. Career Network Building 2. Cover Letter Writing and Developing a Draft Resume. 3. Interview Skills	1. Role Playing 2. Cognitive Rehearsal
8. Summary and Outlook	To comprehensively summarize the journey of the group counseling, facilitate members' deep understanding of career planning	1. Members share their short-term and long-term career goals. 2. Group Feedback and Sharing of Gains. 3. Scale measurement, setting Up a Follow-Up Mechanism.	1. Goal Clarification 2. Reinforcement 3. Group dynamics

b. Experimental Phase

During the experimental phase, the primary focus was on the implementation of the group counseling intervention.

1) Establishing Group Members

2) Setting Time and Location for Group Counseling

Considering the natural development of the control group members, the duration of each group counseling session should not be excessively long. It was initially decided to hold sessions once a week, with each session lasting 60 minutes. A total of eight sessions were conducted over a period of two months. The sessions were held in the smart classrooms at Yunnan Arts University.

3.2.4 Data Collection

This phase employs a mixed-methods approach, integrating quantitative and qualitative analyses to explore the underlying relationships between group counseling and various factors affecting University students' career planning. The data collection process encompasses several stages, including baseline assessment, process observation, immediate post-test evaluation, and long-term follow-up assessment, as detailed below:

Baseline Assessment Phase (Pre-Consultation): Before the commencement of group counseling, participants will complete the University Students' Career Planning Scale. This baseline assessment serves as the starting point for the integrative group counseling intervention. Its purpose is to quantify participants' initial status regarding career planning, providing a benchmark for subsequent analyses.

Process Observation Phase (During Group Counseling): Throughout the integrative group counseling sessions, researchers will systematically observe and record participants' interactions and responses. These observations provide qualitative insights into participants' behavioral changes and reactions to the counseling intervention, helping to understand the dynamic changes during the counseling process.

Post-test Evaluation Phase (Immediately After Counseling): Upon completion of the group counseling program, the University Students' Career Planning Scale will be administered again for immediate post-test evaluation. This phase aims to quantify changes or improvements in participants' career planning levels due to the group counseling, thereby verifying the immediate impact of the intervention.

Follow-Up Assessment Phase: Two weeks after the completion of the counseling program, follow-up assessments will be conducted, including in-depth interviews with 3 participants from the experimental group. This phase aims to track the sustainability of participants' career planning abilities over time and evaluate the long-term effectiveness and impact of the group counseling intervention, providing a comprehensive assessment of its effects.

Through this multi-stage and multi-dimensional data collection and analysis strategy, the study seeks to thoroughly and deeply investigate the facilitative effects of group counseling on University students' career planning and the mechanisms involved.

3.2.5 Data Analysis

To evaluate the effectiveness of the integrative group counseling intervention, the following statistical methods were applied:

1) Quantitative analysis

Baseline Equivalence Testing: Independent sample t-tests were used to compare pre-test scores of the experimental and control groups to ensure equivalence before intervention.

Within-Group Comparison: Paired-sample t-tests were conducted to assess pre-test and post-test differences within each group. This analysis determined whether significant changes occurred due to the intervention.

Between-Group Comparison: Repeated measures ANOVA was employed to analyze differences across three time points-pre-test, post-test, and follow-up-between the experimental and control groups. The interaction effect of group × time was examined to determine the effectiveness and sustainability of the intervention.

Effect Size Measurement: Cohen's d was calculated to quantify the magnitude of observed effects across all six dimensions. Values above 0.80 were interpreted as large effects.

2) Qualitative Analysis

Content analysis was performed on interview transcripts to triangulate the quantitative findings. Thematic coding was applied to identify cognitive, emotional, and behavioral changes among participants, enhancing the depth and interpretability of the intervention outcomes.

3.2.6 Ethical Considerations for Human Subjects

The ethical considerations for research in human subjects approval were obtained from the Ethics and Research Standardization Section prior to conducting the study.

An overview of the study is presented to participants through an opening message that explains the purpose of the study including the risks and benefits of participation. For phase 1, the consent form stated that if participants completed and returned the survey instruments, the information obtained would be anonymous. For the participants in phase 2, the consent form stated information obtained would be anonymous and they could withdraw from the experiment at any time without consequences.

CHAPTER 4
RESULTS

The study titled " A study and development of career planning among Chinese university students through integrative group counseling" consists of two phases. The primary aim of the initial phase is to conduct in-depth focus group discussions to examine the key factors and contextual conditions influencing career planning. Based on these findings, a structured career planning scale for Chinese university students will be developed. Subsequently, Exploratory Factor Analysis (EFA) will be employed to identify latent variables and assess their interrelationships. The second phase focuses on designing an integrative group counseling intervention to strengthen the most influential factors identified in the first phase. A rigorous evaluation will then be conducted to measure the efficacy of this group counseling program in enhancing career planning outcomes among participants.

4.1 Results of Phase 1: Data analysis

The preliminary stage encompasses focus group interviews alongside the development and refinement of the scale. First, preliminary data are collected through structured focus group discussions, which subsequently inform the design and iterative revision of the survey instrument. Following this, the refined scale is administered for large-scale pilot testing. A total of 400 students participated in the survey, providing valuable data on their career planning. The collected data undergo a comprehensive psychometric analysis to assess the instrument's reliability (e.g., internal consistency) and validity (e.g., construct validity), thereby ensuring the methodological rigor and scientific robustness of the research tool. The quantitative analysis in Phase 1 was structured as follows:

4.1.1 Demographic Data of the Sample

4.1.2 Descriptive statistics of career planning factors for Chinese University Students

4.1.3 The study of the relationship of career planning factors for Chinese University Students.

4.1.4 Eigenvalues percentage of variance and cumulative percentage of career planning factors for Chinese University Students

4.1.5 Exploratory factor analysis of indicators career planning factors for Chinese University Students

4.1.6 Assumption examination of career planning factors for the Chinese University Students measurement model and the empirical data

Symbols in Analysis

To clearly present and comprehend the results of the data analysis, the researcher determines that symbols and acronyms used in the analysis were explicitly defined as follows:

Table 7 Symbols Used in Data Analysis

Symbol	Meaning
n	Number of samples size
M	Mean
SD	Standard Deviation
χ^2	Chi-Square
df	Degree of Freedom
p	p-value
GFI	Goodness of Fit Index
AGFI	Adjusted Goodness of Fit Index
CFI	Comparative Fit Index
RMSEA	Root Mean Square Error of Approximation
SRMR	Standard Root Mean Square Residual
β	Completely Standardize Solution
SE	Standard Error
t	t-test
CR	Construct Reliability

Abbreviation Used in Data Analysis

Table 8 Researchers determine abbreviations used in data analysis

Symbol	Meaning
IN	Indicators

4.1.1 Demographic Data of the Sample

This section presents the demographic characteristics of the study participants, including their disciplinary distribution, academic background, proportional representation, and other relevant sample attributes. The dataset comprises 400 undergraduate students recruited through voluntary participation. A stratified random sampling approach was implemented during data collection. The target population consisted of third- and fourth-year undergraduates enrolled at Yunnan Arts University, spanning seven academic divisions: the Faculty of Music, Faculty of Fine Arts, Faculty of Design, Faculty of Drama, Faculty of Dance, Faculty of Film and Television, and Faculty of Arts Management, with a total enrollment of 4,060 students. To determine the optimal sample size, we applied the Taro-Yamane formula, a widely accepted methodological framework in social science research. With a predetermined margin of error (e) set at 0.05 to ensure statistical precision, the initial calculation yielded a minimum required sample size of 364 participants. Anticipating potential attrition, incomplete responses, or data inconsistencies, we adopted a conservative approach by expanding the sample to 400 participants. This final sample size represents 9.85% of the total eligible population, ensuring both representativeness and analytical robustness for subsequent data interpretation.

To ensure data integrity, all measured variables were subjected to rigorous validation procedures, including assessments for missing values, outlier detection, and tests of normality. The screening protocol confirmed the validity of all retained data

points. The accompanying table provides a comprehensive statistical summary of the sample's demographic attributes, which consists of 400 participants (N=400).

Table 9 Demographic Data of the Sample

Faculty	Year	Total Number	Frequency (n)	Percentage (%)
Faculty of Music	Junior	360	35	8.87
	Senior	470	46	11.58
Faculty of Fine Arts	Junior	380	37	9.36
	Senior	510	50	12.56
Faculty of Design	Junior	320	32	7.88
	Senior	440	43	10.84
Faculty of Theater	Junior	250	25	6.16
	Senior	340	33	8.37
Faculty of Dance	Junior	114	11	2.81
	Senior	236	23	5.81
Faculty of Film & TV	Junior	170	17	4.19
	Senior	230	23	5.67
Faculty of Arts Mgmt	Junior	100	10	2.46
	Senior	140	14	3.45
Total		4060	400	100

Table 9 shows that stratified sampling framework yielded a final analytical sample of 400 undergraduates (N=400), representing 9.85% of the target population (N=4,060) across seven Faculties at Yunnan Arts University. Frequency analysis revealed proportional alignment with institutional enrollment characteristics: the Faculty of Fine Arts constituted the largest subsample (n=87, 21.92%), followed by Music (n=81, 20.45%) and Design (n=75, 18.72%), while smaller Faculties (Dance, Film & TV, Arts Management) collectively comprised 20.39% (n=81). Senior students were systematically oversampled (60.50% vs 39.50% juniors) to reflect population distributions (2,426 seniors vs 1,634 juniors), with Faculty-level stratification maintaining $\leq$1.5% deviation from actual enrollment ratios (e.g., Fine Arts seniors: sample 11.58% vs population

12.56%). This sampling approach satisfied the Taro-Yamane threshold (e=0.05) while preserving inter-Faculty proportionality, thereby ensuring both statistical power (1-β>0.95) and population representativeness for subsequent inferential analyses. Post-screening validation confirmed complete case integrity (0% missing data) across all demographic variables.

The Faculty distribution demonstrates diversified disciplinary representation across the sample. The largest cohorts were drawn from the Faculty of Fine Arts (21.92%) and the Faculty of Music (20.45%), followed by the Faculty of Design (18.72%) and the Faculty of Theater (14.53%). The Faculty of Arts Management showed the lowest representation at 6.01%, while other academic units, including the Faculty of Film & Television and the Faculty of Dance maintained moderate proportional representation within the sample.

Overall, the sample demonstrated demographic balance in terms of gender and academic year, and included participants from a wide range of academic disciplines. This diversity enhanced the representativeness of the data and provided a solid foundation for the rigorous analysis of the study's variables.

4.1.2 Descriptive statistics of career planning factors for Chinese University Students

The researcher analyzed the mean and standard deviation of career planning factors for Chinese University Students in a table.

Table 10 Mean and standard deviation of career planning factors for Chinese University Students (n=400)

Career Planning Factors	M	S.D.	Levels
Self-Cognition	3.53	0.77	High
Social Cognition	3.43	0.81	Moderate
Career Cognition	3.51	0.77	High
Career Decision-Making	3.44	0.80	Moderate
Plan of Career	3.47	0.81	Moderate
Work Implementation	3.48	0.81	Moderate
Career Planning Factors	**3.48**	**0.58**	**Moderate**

As shown in Table 10, the career planning factors for Chinese University Students were at a moderate level (M=3.48, SD=0.58). The factors, in descending order of importance, were self-cognition (M=3.53, SD=0.77), career cognition (M=3.51, SD=0.77), work implementation (M=3.48, SD=0.81), plan of career (M=3.47, SD=0.81), career decision-making (M=3.44, SD=0.80) and social cognition (M=3.43, SD=0.81).

Table 11 Mean and standard deviation of self-cognition for Chinese University Students (n=400)

Self-Cognition	M	S.D.	Levels
IN 1 I have a clear understanding of my strengths and weaknesses.	3.76	1.23	High
IN 2 I believe my personality is suited to my target career.	3.51	0.94	High
IN 3 I have a clear understanding of my personal interests.	3.49	0.97	Moderate
IN 4 I believe my values align with the requirements of my target career.	3.51	0.97	High
IN 5 I have a clear understanding of my career motivations.	3.51	0.89	High
IN 6 I believe my communication skills meet the requirements of my target career.	3.51	0.93	High
IN 7 I believe my leadership skills meet the requirements of my target career.	3.50	0.91	Moderate

Table 11 (continued)

Self-Cognition	M	S.D.	Levels
IN 8 I believe my problem-solving skills meet the requirements of my target career.	3.52	0.94	High
IN 9 I believe my time management skills meet the requirements of my target career.	3.51	0.99	High
IN 10 I believe my innovative skills meet the requirements of my target career.	3.52	0.88	High
Self-Cognition	**3.53**	**0.77**	**High**

According to table 11, the self-cognition for Chinese University Students were at a high level (M=3.53, SD=0.77). The indicators, in descending order of importance, were IN 1 I have a clear understanding of my strengths and weaknesses (M=3.76, SD=1.23), IN 8 I believe my problem-solving skills meet the requirements of my target career and IN 10 I believe my innovative skills meet the requirements of my target career (M=3.52, SD=0.94, 0.88), IN 2 I believe my personality is suited to my target career, IN 4 I believe my values align with the requirements of my target career, IN 5 I have a clear understanding of my career motivations, IN 6 I believe my communication skills meet the requirements of my target career and IN 9 I believe my time management skills meet the requirements of my target career (M=3.51, SD=0.94, 0.97, 0.89, 0.93, 0.99), IN 7 I believe my leadership skills meet the requirements of my target career (M=3.50, SD=0.91) and IN 3 I have a clear understanding of my personal interests (M=3.49, SD=0.97).

Table 12 Mean and standard deviation of social cognition for Chinese University Students (n=400)

Social Cognition	M	S.D.	Levels
IN 11 I understand the overall employment market situation.	3.55	1.28	High
IN 12 I believe my major is competitive in the current employment market.	3.43	0.97	Moderate
IN 13 I am aware of the soft skills required for my target career.	3.38	1.02	Moderate
IN 14 I believe social relationships are important for career development.	3.39	0.97	Moderate
IN 15 I am aware of the policies and regulations in the industry of my target career.	3.45	0.99	Moderate
IN 16 I believe teamwork is important in my target career.	3.44	0.94	Moderate
IN 17 I am aware of the competitive landscape in the industry of my target career.	3.43	0.96	Moderate
IN 18 I believe continuous learning is important for career development.	3.38	0.99	Moderate
IN 19 I am aware of the innovative trends in the industry of my target career.	3.38	0.96	Moderate
IN 20 I believe practical experience is important for job hunting.	3.44	0.96	Moderate
Social Cognition	**3.43**	**0.81**	**Moderate**

According to table 12, the social cognition for Chinese University Students were at a moderate level (M=3.43, SD=0.81). The indicators, in descending order of importance, were IN 11 I understand the overall employment market situation (M=3.55, SD=1.28), IN 15 I am aware of the policies and regulations in the industry of my target career (M=3.45, SD=0.99), IN 16 I believe teamwork is important in my target career and IN 20 I believe practical experience is important for job hunting (M=3.44, SD=0.94, 0.96), IN 12 I believe my major is competitive in the current employment market and IN 17 I am aware of the competitive landscape in the industry of my target career(M=3.43, SD=0.97, 0.96), IN 14 I believe social relationships are important for career development (M=3.39, SD=0.97), IN 13 I am aware of the soft skills required for my target career, IN 18 I believe

continuous learning is important for career development and IN 19 I am aware of the innovative trends in the industry of my target career (M=3.38, SD=1.02, 0.99, 0.96).

Table 13 Mean and standard deviation of career cognition for Chinese University Students (n=400)

Career Cognition	M	S.D.	Levels
IN 21 I have a clear understanding of the type of career I want to pursue.	3.72	1.15	High
IN 22 I am familiar with the job duties and responsibilities of my target career.	3.50	0.93	Moderate
IN 23 I believe my professional skills match the requirements of my target career.	3.51	0.94	High
IN 24 I hold an optimistic view of the industry prospects of my target career.	3.48	0.98	Moderate
IN 25 I frequently follow industry trends related to my target career.	3.51	0.92	High
IN 26 I believe my target career aligns with my personal values.	3.48	0.93	Moderate
IN 27 I am aware of the promotional pathways and development opportunities within my target career.	3.52	0.86	High
IN 28 I am satisfied with the work environment of my target career.	3.50	0.90	Moderate
IN 29 I believe my target career can leverage my personal strengths.	3.45	0.91	Moderate
IN 30 I am satisfied with the income level of my target career.	3.42	1.00	Moderate
Career Cognition	**3.51**	**0.77**	**High**

According to table 13, the career cognition for Chinese University Students were at a high level (M=3.51, SD=0.77). The indicators, in descending order of importance, were IN 21 I have a clear understanding of the type of career I want to pursue (M=3.72, SD=1.15), IN 27 I am aware of the promotional pathways and development opportunities within my target career (M=3.52, SD=0.86), IN 23 I believe my professional skills match the requirements of my target career and IN 25 I frequently follow industry trends related to my target career (M=3.51, SD=0.94, 0.92), IN 22 I am familiar with the job duties and responsibilities of my target career and IN 28 I am

satisfied with the work environment of my target career (M=3.50, SD=0.93, 0.90), IN 24 I hold an optimistic view of the industry prospects of my target career and IN 26 I believe my target career aligns with my personal values (M=3.48, SD=0.98, 0.93), IN 29 I believe my target career can leverage my personal strengths (M=3.45, SD=0.91) and IN 30 I am satisfied with the income level of my target career (M=3.42, SD=1.00).

Table 14 Mean and standard deviation of career decision-making for Chinese University Students (n=400)

Career Decision-Making	M	S.D.	Levels
IN 31 I have made a clear decision regarding my future career development.	3.65	1.24	High
IN 32 My career decision is based on sufficient information and analysis.	3.41	0.93	Moderate
IN 33 I am satisfied with my career decision.	3.42	1.01	Moderate
IN 34 I believe my career decision aligns with my family's expectations.	3.43	0.94	Moderate
IN 35 I have developed a plan to achieve my career goals.	3.47	0.98	Moderate
IN 36 I believe my career decision is feasible.	3.41	0.97	Moderate
IN 37 I am willing to put in the effort to achieve my career goals.	3.43	0.98	Moderate
IN 38 I believe my career decision will lead to a sense of fulfillment.	3.40	0.97	Moderate
IN 39 I have considered the potential risks involved in my career decision.	3.38	0.98	Moderate
IN 40 I believe my career decision aligns with my long-term goals.	3.44	0.96	Moderate
Career Decision-Making	**3.44**	**0.80**	**Moderate**

According to table 14, the career decision-making for Chinese University Students were at a moderate level (M=3.44, SD=0.80). The indicators, in descending order of importance, were IN 31 I have made a clear decision regarding my future career development (M=3.65, SD=1.24), IN 35 I have developed a plan to achieve my career goals (M=3.47, SD=0.98), IN 40 I believe my career decision aligns with my long-term

goals (M=3.44, SD=0.96), IN 34 I believe my career decision aligns with my family's expectations and IN 37 I am willing to put in the effort to achieve my career goals (M=3.43 SD=0.94, 0.98) IN 33 I am satisfied with my career decision (M=3.42, SD=1.01), IN 32 My career decision is based on sufficient information and analysis and IN 36 I believe my career decision is feasible (M=3.41, SD=0.93, 0.97), IN 38 I believe my career decision will lead to a sense of fulfillment (M=3.40, SD=0.97), IN 39 I have considered the potential risks involved in my career decision (M=3.38, SD=0.98).

Table 15 Mean and standard deviation of plan of career for Chinese University Students (n=400)

Plan of Career	M	S.D.	Levels
IN 41 I have developed a detailed study plan to support my career development.	3.73	1.24	High
IN 42 My study plan has clear goals and timelines.	3.44	0.96	Moderate
IN 43 I frequently review the execution of my study plan.	3.43	1.00	Moderate
IN 44 I have arranged practical activities related to my target career.	3.43	0.95	Moderate
IN 45 I believe my study plan helps improve my professional skills.	3.46	0.98	Moderate
IN 46 I joined clubs or organizations related to my target career.	3.43	0.96	Moderate
IN 47 I regularly update and adjust my study plan to adapt to changes.	3.46	1.02	Moderate
IN 48 I have set short-term and long-term study milestones.	3.46	0.96	Moderate
IN 49 I believe my study plan enhances my employment ability.	3.44	0.94	Moderate
IN 50 I have prepared for possible career transitions or further education.	3.47	0.94	Moderate
Plan of Career	**3.47**	**0.81**	**Moderate**

According to table 15, plan of career for Chinese University Students were at a moderate level (M=3.47, SD=0.81). The indicators, in descending order of importance, were IN 41 I have developed a detailed study plan to support my career development (M=3.73, SD=1.24), IN 50 I have prepared for possible career transitions or further education (M=3.47, SD=0.94), IN 45 I believe my study plan helps improve my professional skills, IN 47 I regularly update and adjust my study plan to adapt to changes

and IN 48 I have set short-term and long-term study milestones (M=3.46, SD=0.98, 1.02, 0.96), IN 42 My study plan has clear goals and timelines and IN 49 I believe my study plan enhances my employment ability (M=3.44, SD=0.96, 0.94), IN 43 I frequently review the execution of my study plan, IN 44 I have arranged practical activities related to my target career and IN 46 I joined clubs or organizations related to my target career (M=3.43, SD=1.00, 0.95, 0.96).

Table 16 Mean and standard deviation of work implementation for Chinese University Students (n=400)

Work Implementation	M	S.D.	Levels
IN 51 I have already begun implementing my career plan.	3.66	1.23	High
IN 52 I can consistently follow through with the tasks in my career plan.	3.48	0.96	Moderate
IN 53 I frequently reflect on and review the progress of my career plan implementation.	3.44	0.88	Moderate
IN 54 I have established a professional network for career development.	3.43	0.95	Moderate
IN 55 I believe I can actively cope with challenges encountered in the implementation of my career plan.	3.43	0.96	Moderate
IN 56 I have gained relevant experience through practical work or internships related to my target career.	3.51	0.92	High
IN 57 I believe I have maintained a positive attitude throughout the implementation of my career plan.	3.46	0.96	Moderate
IN 58 I have adjusted my personal development plan based on the progress of my career plan.	3.47	0.93	Moderate
IN 59 I believe I have made substantial progress in implementing my career plan.	3.37	0.99	Moderate
IN 60 I am confident about my future career development.	3.46	1.02	Moderate
Work Implementation	**3.48**	**0.81**	**Moderate**

According to table 16, the work implementation for Chinese University Students were at a moderate level (M=3.48, SD=0.81). The indicators, in descending order of importance, were IN 51 I have already begun implementing my career plan (M=3.66, SD=1.23), IN 55 I have gained relevant experience through practical work or internships related to my target career (M=3.51, SD=0.92), IN 52 I can consistently follow through with the tasks in my career plan (M=3.48, SD=0.96), IN 57 I have adjusted my personal development plan based on the progress of my career plan (M=3.47, SD=0.93), IN 56 I believe I have maintained a positive attitude throughout the implementation of my career plan (M=3.46, SD=0.96), IN 53 I frequently reflect on and review the progress of my career plan implementation (M=3.44, SD=0.88), IN 54 I believe I can actively cope with challenges encountered in the implementation of my career plan (M=3.43, SD=0.96) and IN 58 I believe I have made substantial progress in implementing my career plan (M=3.37, SD=0.99).

4.1.3 The study of the relationship of career planning factors for Chinese University Students.

Researchers study the relationship of career planning factors for Chinese University Students using the Pearson Product-Moment Correlation Coefficient, as shown in the table.

Table 17 Correlation Coefficient of the relationship of career planning factors for Chinese University Students (n=400)

IN	IN 1	IN 2	IN 3	IN 4	IN 5	IN 6	IN 7	IN 8	IN 9	IN 10
IN 1	1.00									
IN 2	0.62*	1.00								
IN 3	0.70*	0.54*	1.00							
IN 4	0.71*	0.60*	0.60*	1.00						
IN 5	0.61*	0.50*	0.59*	0.60*	1.00					
IN 6	0.69*	0.54*	0.58*	0.61*	0.57*	1.00				
IN 7	0.68*	0.56*	0.59*	0.58*	0.53*	0.60*	1.00			
IN 8	0.66*	0.58*	0.59*	0.57*	0.54*	0.58*	0.56*	1.00		
IN 9	0.71*	0.56*	0.60*	0.63*	0.55*	0.61*	0.59*	0.58*	1.00	

Table 17 (continued)

IN	IN 1	IN 2	IN 3	IN 4	IN 5	IN 6	IN 7	IN 8	IN 9	IN 10
IN 10	0.64*	0.54*	0.61*	0.55*	0.54*	0.54*	0.52*	0.58*	0.58*	1.00
IN 11	0.37*	0.25*	0.31*	0.33*	0.26*	0.28*	0.31*	0.28*	0.28*	0.34*
IN 12	0.31*	0.20*	0.25*	0.27*	0.20*	0.21*	0.28*	0.22*	0.22*	0.23*
IN 13	0.35*	0.26*	0.28*	0.29*	0.24*	0.27*	0.29*	0.27*	0.28*	0.27*
IN 14	0.27*	0.21*	0.25*	0.24*	0.25*	0.22*	0.26*	0.20*	0.20*	0.29*
IN 15	0.29*	0.17*	0.25*	0.28*	0.19*	0.22*	0.28*	0.20*	0.24*	0.29*
IN 16	0.32*	0.25*	0.26*	0.29*	0.23*	0.21*	0.31*	0.26*	0.24*	0.30*
IN 17	0.30*	0.19*	0.21*	0.24*	0.20*	0.20*	0.25*	0.23*	0.23*	0.25*
IN 18	0.30*	0.22*	0.22*	0.26*	0.21*	0.22*	0.26*	0.24*	0.27*	0.25*
IN 19	0.27*	0.20*	0.23*	0.27*	0.19*	0.19*	0.24*	0.20*	0.21*	0.22*
IN 20	0.30*	0.21*	0.27*	0.27*	0.24*	0.25*	0.29*	0.25*	0.26*	0.25*
IN 21	0.31*	0.26*	0.28*	0.30*	0.30*	0.27*	0.28*	0.32*	0.33*	0.31*
IN 22	0.33*	0.28*	0.29*	0.33*	0.32*	0.29*	0.30*	0.32*	0.33*	0.33*
IN 23	0.27*	0.21*	0.25*	0.25*	0.28*	0.26*	0.23*	0.26*	0.29*	0.29*
IN 24	0.38*	0.29*	0.31*	0.33*	0.29*	0.31*	0.31*	0.28*	0.37*	0.30*
IN 25	0.29*	0.19*	0.29*	0.27*	0.29*	0.27*	0.25*	0.27*	0.28*	0.28*
IN 26	0.30*	0.23*	0.29*	0.29*	0.22*	0.22*	0.24*	0.28*	0.29*	0.26*
IN 27	0.23*	0.20*	0.23*	0.24*	0.26*	0.25*	0.19*	0.26*	0.28*	0.21*
IN 28	0.30*	0.22*	0.29*	0.28*	0.26*	0.26*	0.25*	0.29*	0.33*	0.33*
IN 29	0.32*	0.20*	0.27*	0.30*	0.30*	0.25*	0.29*	0.33*	0.32*	0.28*
IN 30	0.29*	0.25*	0.27*	0.25*	0.29*	0.30*	0.29*	0.31*	0.30*	0.34*
IN 31	0.39*	0.26*	0.31*	0.34*	0.31*	0.27*	0.28*	0.31*	0.32*	0.30*
IN 32	0.33*	0.28*	0.26*	0.29*	0.26*	0.29*	0.24*	0.29*	0.28*	0.27*
IN 33	0.38*	0.30*	0.25*	0.35*	0.22*	0.32*	0.25*	0.28*	0.28*	0.33*
IN 34	0.37*	0.27*	0.28*	0.34*	0.28*	0.29*	0.25*	0.30*	0.23*	0.27*
IN 35	0.35*	0.27*	0.29*	0.29*	0.29*	0.25*	0.27*	0.30*	0.28*	0.29*
IN 36	0.34*	0.23*	0.26*	0.32*	0.27*	0.25*	0.24*	0.29*	0.30*	0.32*
IN 37	0.35*	0.22*	0.30*	0.30*	0.30*	0.25*	0.27*	0.31*	0.29*	0.32*
IN 38	0.36*	0.25*	0.32*	0.35*	0.30*	0.29*	0.26*	0.31*	0.32*	0.34*
IN 39	0.35*	0.28*	0.31*	0.35*	0.30*	0.25*	0.31*	0.29*	0.29*	0.29*
IN 40	0.34*	0.27*	0.27*	0.31*	0.25*	0.27*	0.27*	0.30*	0.28*	0.27*
IN 41	0.41*	0.29*	0.29*	0.38*	0.29*	0.30*	0.29*	0.36*	0.36*	0.27*
IN 42	0.32*	0.26*	0.21*	0.33*	0.27*	0.29*	0.26*	0.30*	0.33*	0.25*
IN 43	0.44*	0.37*	0.30*	0.39*	0.31*	0.31*	0.34*	0.38*	0.32*	0.29*
IN 44	0.34*	0.26*	0.22*	0.30*	0.22*	0.23*	0.20*	0.27*	0.27*	0.26*

Table 17 (continued)

IN	IN 1	IN 2	IN 3	IN 4	IN 5	IN 6	IN 7	IN 8	IN 9	IN 10
IN 45	0.42*	0.33*	0.30*	0.39*	0.26*	0.31*	0.29*	0.32*	0.35*	0.31*
IN 46	0.35*	0.24*	0.28*	0.32*	0.26*	0.27*	0.26*	0.32*	0.28*	0.27*
IN 47	0.38*	0.32*	0.29*	0.34*	0.31*	0.31*	0.30	0.38*	0.35*	0.34*
IN 48	0.38*	0.28*	0.26*	0.34*	0.29*	0.30*	0.24*	0.34*	0.33*	0.24*
IN 49	0.28*	0.22*	0.22*	0.26*	0.26*	0.25*	0.19*	0.26*	0.24*	0.25*
IN 50	0.40*	0.34*	0.33*	0.40*	0.36*	0.35*	0.30*	0.35*	0.33*	0.32*
IN 51	0.44*	0.31*	0.25*	0.35*	0.30*	0.35*	0.36*	0.32*	0.40*	0.34*
IN 52	0.42*	0.30*	0.25*	0.34*	0.28*	0.31*	0.34*	0.29*	0.36*	0.32*
IN 53	0.36*	0.27*	0.23*	0.29*	0.22*	0.33*	0.25*	0.30*	0.31*	0.30*
IN 54	0.37*	0.28*	0.25*	0.28*	0.24*	0.24*	0.31*	0.27*	0.35*	0.31*
IN 55	0.34*	0.25*	0.21*	0.27*	0.22*	0.25*	0.26*	0.29*	0.29*	0.28*
IN 56	0.35*	0.27*	0.21*	0.32*	0.26*	0.31*	0.30*	0.27*	0.32*	0.32*
IN 57	0.35*	0.29*	0.19*	0.28*	0.25*	0.29*	0.26*	0.25*	0.33*	0.26*
IN 58	0.40*	0.30*	0.26*	0.34*	0.30*	0.32*	0.31*	0.27*	0.33*	0.30*
IN 11	1.00									
IN 12	0.65*	1.00								
IN 13	0.71*	0.64*	1.00							
IN 14	0.70*	0.60*	0.61*	1.00						
IN 15	0.72*	0.55*	0.62*	0.60*	1.00					
IN 16	0.64*	0.61*	0.60*	0.54*	0.55*	1.00				
IN 17	0.71*	0.60*	0.64*	0.60*	0.61*	0.60*	1.00			
IN 18	0.71*	0.61*	0.63*	0.64*	0.60*	0.61*	0.63	1.00		
IN 19	0.65*	0.54*	0.60*	0.57*	0.59*	0.54*	0.57*	0.59*	1.00	
IN 20	0.69*	0.62*	0.60*	0.58*	0.60*	0.59*	0.61*	0.58*	0.58	1.00
IN 21	0.34*	0.32*	0.33*	0.27*	0.28*	0.28*	0.27*	0.31*	0.35*	0.34*
IN 22	0.31*	0.26*	0.35*	0.25*	0.25*	0.27*	0.29*	0.27*	0.27*	0.29*
IN 23	0.31*	0.26*	0.31*	0.26*	0.22*	0.23*	0.26*	0.25*	0.32*	0.31*
IN 24	0.38*	0.32*	0.38*	0.30*	0.28*	0.30*	0.34*	0.36*	0.40*	0.33*
IN 25	0.36*	0.28*	0.33*	0.24*	0.27*	0.29*	0.27*	0.29*	0.26*	0.31*
IN 26	0.33*	0.30*	0.30*	0.25*	0.26*	0.27*	0.29*	0.26*	0.29*	0.29*
IN 27	0.31*	0.24*	0.27*	0.19*	0.20*	0.26*	0.26*	0.22*	0.26*	0.28*
IN 28	0.28*	0.26*	0.29*	0.23*	0.22*	0.23*	0.22*	0.25*	0.28*	0.24*
IN 29	0.38*	0.32*	0.37*	0.32*	0.29*	0.30*	0.34*	0.31*	0.31*	0.34*
IN 30	0.35*	0.27*	0.34*	0.26*	0.28*	0.20*	0.26*	0.26*	0.30*	0.27*
IN 31	0.36*	0.32*	0.33*	0.26*	0.30*	0.32*	0.34*	0.33*	0.32*	0.29*
IN 32	0.30*	0.21*	0.24*	0.19*	0.17*	0.25*	0.26*	0.24*	0.28*	0.24*

Table 17 (continued)

IN	IN 11	IN 12	IN 13	IN 14	IN 15	IN 16	IN 17	IN 18	IN 19	IN 20
IN 33	0.34*	0.28*	0.30*	0.26*	0.28*	0.28*	0.31*	0.29*	0.27*	0.27*
IN 34	0.29*	0.26*	0.25*	0.21*	0.22*	0.32*	0.27*	0.30*	0.24*	0.23*
IN 35	0.30*	0.29*	0.30*	0.21*	0.24*	0.31*	0.29*	0.25*	0.27*	0.29*
IN 36	0.34*	0.32*	0.31*	0.28*	0.30*	0.32*	0.28*	0.28*	0.28*	0.27*
IN 37	0.31*	0.26*	0.27*	0.19*	0.27*	0.29*	0.28*	0.25*	0.23*	0.25*
IN 38	0.34*	0.32*	0.34*	0.27*	0.29*	0.34*	0.32*	0.35*	0.30*	0.27*
IN 39	0.29*	0.24*	0.29*	0.20*	0.22*	0.27*	0.28*	0.26*	0.31*	0.24*
IN 40	0.30*	0.21*	0.21*	0.21*	0.23*	0.24*	0.26*	0.27*	0.23*	0.23*
IN 41	0.37*	0.36*	0.32*	0.25*	0.28*	0.31*	0.34*	0.30*	0.32*	0.33*
IN 42	0.31*	0.28*	0.25*	0.20*	0.22*	0.27*	0.30*	0.22*	0.24*	0.26*
IN 43	0.38*	0.33*	0.33*	0.22*	0.28*	0.30*	0.34*	0.31*	0.29*	0.31*
IN 44	0.33*	0.34*	0.32*	0.25*	0.25*	0.27*	0.32*	0.29*	0.31*	0.34*
IN 45	0.33*	0.28*	0.29*	0.23*	0.26*	0.28*	0.30*	0.29*	0.31*	0.28*
IN 46	0.36*	0.34*	0.32*	0.21*	0.25*	0.30*	0.32*	0.27	0.25*	0.28*
IN 47	0.30*	0.30*	0.27*	0.20*	0.21*	0.25*	0.27*	0.26*	0.27*	0.28*
IN 48	0.28*	0.25*	0.24*	0.20*	0.18*	0.23*	0.28*	0.20*	0.25*	0.28*
IN 49	0.29*	0.28*	0.24*	0.22*	0.20*	0.23*	0.29*	0.25*	0.23*	0.27*
IN 50	0.32*	0.29*	0.28*	0.22*	0.28*	0.26*	0.30*	0.27*	0.28*	0.29*
IN 51	0.37*	0.31*	0.32*	0.32*	0.29*	0.31*	0.35*	0.31*	0.25*	0.30*
IN 52	0.33*	0.32*	0.33*	0.30*	0.27*	0.33*	0.27*	0.29*	0.26*	0.29*
IN 53	0.31*	0.26*	0.28*	0.27*	0.24*	0.25*	0.33*	0.32*	0.18*	0.24*
IN 54	0.30*	0.26*	0.31*	0.28*	0.23*	0.26*	0.28*	0.23*	0.25*	0.23*
IN 55	0.28*	0.25*	0.26*	0.20*	0.22*	0.29*	0.26*	0.27*	0.22*	0.23*
IN 56	0.29*	0.27*	0.27*	0.20*	0.22*	0.27*	0.30*	0.24*	0.19*	0.27*
IN 57	0.24*	0.22*	0.25*	0.22*	0.20*	0.24*	0.24*	0.20*	0.19*	0.23*
IN 58	0.34*	0.28*	0.34*	0.30*	0.27*	0.31*	0.34*	0.31*	0.24*	0.26*

Table 17 (continued)

IN	IN 21	IN 22	IN 23	IN 24	IN 25	IN 26	IN 27	IN 28	IN 29	IN 30
IN 21	1.00									
IN 22	0.67*	1.00								
IN 23	0.74*	0.60*	1.00							
IN 24	0.71*	0.57*	0.63*	1.00						
IN 25	0.65*	0.58*	0.59*	0.62*	1.00					
IN 26	0.69*	0.58*	0.59*	0.57*	0.59*	1.00				
IN 27	0.66*	0.53*	0.59*	0.57*	0.55*	0.58*	1.00			
IN 28	0.67*	0.56*	0.64*	0.60*	0.55*	0.58*	0.54*	1.00		
IN 29	0.66*	0.59*	0.60*	0.57*	0.54*	0.56*	0.52*	0.56*	1.00	
IN 30	0.74*	0.60*	0.65*	0.62*	0.63*	0.58*	0.59*	0.54*	0.58*	1.00
IN 31	0.31*	0.31*	0.34*	0.34*	0.35*	0.39*	0.28*	0.35*	0.29*	0.31*
IN 32	0.26*	0.26*	0.23*	0.28*	0.28*	0.31*	0.26*	0.31*	0.23*	0.26*
IN 33	0.30*	0.29*	0.29*	0.30*	0.35*	0.34*	0.23*	0.35*	0.28*	0.30*
IN 34	0.31*	0.31*	0.27*	0.33*	0.39*	0.36*	0.24*	0.33*	0.29*	0.30*
IN 35	0.27*	0.31*	0.29*	0.28*	0.37*	0.34*	0.26*	0.36*	0.27*	0.25*
IN 36	0.31*	0.29*	0.28*	0.30*	0.34*	0.33*	0.26*	0.35*	0.27*	0.32*
IN 37	0.25*	0.28*	0.28*	0.27*	0.34*	0.31*	0.25*	0.35*	0.27*	0.26*
IN 38	0.31*	0.32*	0.30*	0.34*	0.39*	0.38*	0.27*	0.35*	0.34*	0.33*
IN 39	0.30*	0.29*	0.30*	0.32*	0.34*	0.33*	0.27*	0.39*	0.31*	0.30*
IN 40	0.31*	0.28*	0.32*	0.29*	0.33*	0.27*	0.26*	0.35*	0.26*	0.26*
IN 41	0.40*	0.38*	0.37*	0.37*	0.36*	0.43*	0.36*	0.39*	0.35*	0.35*
IN 42	0.34*	0.33*	0.31*	0.34*	0.33*	0.39*	0.31*	0.29*	0.27*	0.34*
IN 43	0.27*	0.28*	0.27*	0.31*	0.29*	0.32*	0.23*	0.26*	0.27*	0.29*
IN 44	0.30*	0.25*	0.31*	0.30*	0.27*	0.29*	0.25*	0.31*	0.25*	0.26*
IN 45	0.31*	0.26*	0.28*	0.31*	0.31*	0.29*	0.22*	0.28*	0.23*	0.24*
IN 46	0.26*	0.23*	0.29*	0.28*	0.29*	0.28*	0.23*	0.27*	0.28*	0.29*
IN 47	0.35*	0.33*	0.31*	0.34*	0.30*	0.32*	0.26*	0.34*	0.28*	0.31*
IN 48	0.30*	0.28*	0.25*	0.29*	0.30*	0.34*	0.26*	0.29*	0.24*	0.23*
IN 49	0.31*	0.26*	0.28*	0.29*	0.28*	0.28*	0.26*	0.23*	0.28*	0.30*
IN 50	0.29*	0.30*	0.27*	0.30*	0.30*	0.32*	0.24*	0.33*	0.24*	0.25*
IN 51	0.32*	0.34*	0.28*	0.33*	0.26*	0.31*	0.25*	0.26*	0.27*	0.33*
IN 52	0.26*	0.32*	0.21*	0.28*	0.23*	0.29*	0.16*	0.25*	0.28*	0.23*
IN 53	0.28*	0.27*	0.25*	0.32*	0.26*	0.29*	0.23*	0.21*	0.24*	0.29*
IN 54	0.30*	0.34*	0.27*	0.31*	0.28*	0.31*	0.20*	0.24*	0.28*	0.30*
IN 55	0.27*	0.31*	0.22*	0.24*	0.25*	0.31*	0.21*	0.20*	0.17*	0.25*
IN 56	0.28*	0.33*	0.23*	0.27*	0.25*	0.29*	0.22*	0.23*	0.25*	0.31*

Table 17 (continued)

IN	IN 21	IN 22	IN 23	IN 24	IN 25	IN 26	IN 27	IN 28	IN 29	IN 30
IN 57	0.27*	0.30*	0.24*	0.31*	0.26*	0.26*	0.21*	0.19*	0.23*	0.27*
IN 58	0.33*	0.36*	0.27*	0.37*	0.31*	0.31*	0.26*	0.23*	0.28*	0.32*
IN	IN 31	IN 32	IN 33	IN 34	IN 35	IN 36	IN 37	IN 38	IN 39	IN 40
IN 31	1.00									
IN 32	0.63*	1.00								
IN 33	0.73*	0.62*	1.00							
IN 34	0.69*	0.57*	0.66*	1.00						
IN 35	0.67*	0.55*	0.65*	0.59*	1.00					
IN 36	0.66*	0.59*	0.61*	0.58*	0.58*	1.00				
IN 37	0.70*	0.50*	0.61*	0.58*	0.60*	0.57*	1.00			
IN 38	0.70*	0.58*	0.59*	0.60*	0.55*	0.56*	0.64*	1.00		
IN 39	0.67*	0.58*	0.60*	0.57*	0.59*	0.62*	0.56*	0.61*	1.00	
IN 40	0.65*	0.58*	0.64*	0.60*	0.59*	0.55*	0.59*	0.54*	0.60*	1.00
IN 41	0.37*	0.29*	0.33*	0.31*	0.41*	0.37*	0.29*	0.34*	0.32*	0.27*
IN 42	0.33*	0.30*	0.35*	0.30*	0.38*	0.39*	0.30*	0.32*	0.31*	0.30*
IN 43	0.35*	0.31*	0.32*	0.32*	0.35*	0.32*	0.29*	0.34*	0.34*	0.29*
IN 44	0.32*	0.35*	0.31*	0.28*	0.36*	0.39*	0.29*	0.35*	0.33*	0.32*
IN 45	0.34*	0.27*	0.31*	0.27*	0.32*	0.37*	0.28*	0.30*	0.32*	0.28*
IN 46	0.34*	0.26*	0.29*	0.28*	0.29*	0.32*	0.29*	0.34*	0.27*	0.28*
IN 47	0.36*	0.28*	0.30*	0.29*	0.36*	0.34*	0.33*	0.34*	0.29*	0.33*
IN 48	0.37*	0.34*	0.34*	0.28*	0.36*	0.32*	0.28*	0.32*	0.33*	0.29*
IN 49	0.30*	0.25*	0.29*	0.27*	0.29*	0.31*	0.23*	0.25*	0.26*	0.24*
IN 50	0.40*	0.33*	0.39*	0.35*	0.36*	0.35*	0.33*	0.39*	0.38*	0.32*
IN 51	0.34*	0.32*	0.38*	0.31*	0.30*	0.29*	0.30*	0.37*	0.28*	0.32*
IN 52	0.29*	0.25*	0.33*	0.28*	0.31*	0.29*	0.26*	0.33*	0.29*	0.25*
IN 53	0.30*	0.25*	0.37*	0.33*	0.28*	0.22*	0.26*	0.33*	0.23*	0.32*
IN 54	0.30*	0.29*	0.31*	0.33*	0.30*	0.29*	0.25*	0.33*	0.27*	0.27*
IN 55	0.34*	0.30*	0.35*	0.33*	0.31*	0.30*	0.27*	0.31*	0.27*	0.31*
IN 56	0.30*	0.28*	0.34*	0.30*	0.28*	0.28*	0.27*	0.32*	0.26*	0.24*
IN 57	0.30*	0.25*	0.31*	0.28*	0.30*	0.26*	0.23*	0.34*	0.25*	0.25*
IN 58	0.34*	0.28*	0.38*	0.37*	0.33*	0.30*	0.31*	0.35*	0.28*	0.32*

Table 17 (continued)

IN	IN 41	IN 42	IN 43	IN 44	IN 45	IN 46	IN 47	IN 48	IN 49	IN 50
IN 41	1.00									
IN 42	0.71*	1.00								
IN 43	0.74*	0.60*	1.00							
IN 44	0.67*	0.62*	0.63*	1.00						
IN 45	0.70*	0.56*	0.65*	0.58*	1.00					
IN 46	0.64*	0.52*	0.60*	0.56*	0.56*	1.00				
IN 47	0.75*	0.59*	0.67*	0.59*	0.63*	0.60*	1.00			
IN 48	0.70*	0.62*	0.62*	0.59*	0.65*	0.52*	0.58*	1.00		
IN 49	0.68*	0.57*	0.63*	0.58*	0.61*	0.57*	0.62*	0.56*	1.00	
IN 50	0.69*	0.57*	0.64*	0.59*	0.56*	0.54*	0.61*	0.59*	0.59*	1.00
IN 51	0.37*	0.35*	0.34*	0.33*	0.31*	0.33*	0.33*	0.31*	0.27*	0.34*
IN 52	0.34*	0.32*	0.30*	0.30*	0.32*	0.26*	0.29*	0.33*	0.24*	0.30*
IN 53	0.37*	0.36*	0.34*	0.29*	0.29*	0.30*	0.28*	0.30*	0.28*	0.33*
IN 54	0.36*	0.32*	0.33*	0.32*	0.30*	0.31*	0.32*	0.28*	0.27*	0.32*
IN 55	0.31*	0.29*	0.30*	0.31*	0.29*	0.27*	0.30*	0.27*	0.24*	0.26*
IN 56	0.38*	0.34*	0.31*	0.30*	0.31*	0.28*	0.30*	0.30*	0.28*	0.34*
IN 57	0.35*	0.34*	0.31*	0.30*	0.30*	0.25*	0.31*	0.32*	0.27*	0.33*
IN 58	0.36*	0.33*	0.31*	0.28*	0.29*	0.30*	0.34*	0.30*	0.28*	0.32*

	IN 51	IN 52	IN 53	IN 54	IN 55	IN 56	IN 57	IN 58
IN 51	1.00							
IN 52	0.73*	1.00						
IN 53	0.67*	0.54*	1.00					
IN 54	0.76*	0.62*	0.56*	1.00				
IN 55	0.71*	0.56*	0.55*	0.61*	1.00			
IN 56	0.74*	0.62*	0.55*	0.61*	0.59*	1.00		
IN 57	0.73*	0.58*	0.53*	0.63*	0.59*	0.58*	1.00	
IN 58	0.74*	0.58*	0.50*	0.61*	0.56*	0.65*	0.63*	1.00

Bartlett's Test: χ^2=17155.34 df=1653 p-value=0.00 KMO=0.96 Measure of Sampling Adequacy (MSA) between 0.93 to 0.96

*p-value<0.05

As shown in Table 17, the relationship of career planning factors for Chinese University Students has a correlation coefficient between 0.16 to 0.76 significantly at the 0.05 level. IN 51 I have already begun implementing my career plan and IN 54 I believe I can actively cope with challenges encountered in the implementation of my career plan had the highest correlation coefficient to 0.76 and IN 27 I am aware of the promotional pathways and development opportunities within my target career and IN 51 I have already begun implementing my career plan had the lowest correlation coefficient to 0.16.

Self-Cognition found that correlation coefficient between 0.53 to 0.71. IN 1 I have a clear understanding of my strengths and weaknesses and IN 4 I believe my values align with the requirements of my target career had the highest correlation coefficient to 0.71 and IN 5 I have a clear understanding of my career motivations and IN 7 I believe my leadership skills meet the requirements of my target career had the lowest correlation coefficient to 0.53.

Social Cognition found that the correlation coefficient was between 0.54 to 0.72. IN 11 I understand the overall employment market situation and IN 15 I am aware of the policies and regulations in the industry of my target career had the highest correlation coefficient to 0.72 and IN 14 I believe social relationships are important for career development and IN 16 I believe teamwork is important in my target career had the lowest correlation coefficient to 0.54.

Career Cognition found that the correlation coefficient was between 0.52 to 0.74. IN 21 I have a clear understanding of the type of career I want to pursue and IN 23 I believe my professional skills match the requirements of my target career had the highest correlation coefficient to 0.74 and IN 27 I am aware of the promotional pathways and development opportunities within my target career and IN 29 I believe my target career can leverage my personal strengths had the lowest correlation coefficient to 0.52.

Career Decision-Making found that the correlation coefficient was between 0.50 to 0.73. IN 31 I have made a clear decision regarding my future career development and IN 33 I am satisfied with my career decision had the highest correlation coefficient to

0.73 and IN 32 My career decision is based on sufficient information and analysis and IN 37 I am willing to put in the effort to achieve my career goals had the lowest correlation coefficient to 0.50.

Plan of Career found that correlation coefficient between 0.52 to 0.74 IN 41. I have developed a detailed study plan to support my career development and IN 43 I frequently review the execution of my study plan had the highest correlation coefficient to 0.74 and IN 46 I joined clubs or organizations related to my target career and IN 48 I have set short-term and long-term study milestones had the lowest correlation coefficient to 0.52.

Work Implementation found that correlation coefficient between 0.54 to 0.76 IN 51. I have already begun implementing my career plan and IN 54 I believe I can actively cope with challenges encountered in the implementation of my career plan had the highest correlation coefficient to 0.76 and IN 52 I can consistently follow through with the tasks in my career plan and IN 53 I frequently reflect on and review the progress of my career plan implementation had the lowest correlation coefficient to 0.16.

When examined Identity Matrix Assumption, Researchers found that items have enough relationships to analyze factor analysis (Bartlett's Test: χ^2=17155.34 df=1653 p=.00). researcher examine items found that Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) of 0.96 and Measure of Sampling Adequacy (MSA) between 0.93 to 0.96 Researchers found that indicators have enough relationships to analyze secondary confirmatory factor analysis.

4.1.4 Eigenvalues percentage of variance and cumulative percentage of career planning factors for Chinese University Students

The researcher analyzed the Eigenvalues percentage of variance and the cumulative percentage of career planning factors for Chinese University Students in Table 17.

Table 18 Eigenvalues percentage of variance and cumulative percentage of career planning factors for Chinese University Students (n=400)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	20.33	35.05	35.05	20.33	35.05	35.05	6.70	11.54	11.54
2	4.11	7.08	42.13	4.11	7.08	42.13	6.51	11.22	22.76
3	3.65	6.29	48.43	3.65	6.29	48.43	6.50	11.21	33.97
4	3.50	6.03	54.46	3.50	6.03	54.46	6.46	11.15	45.11
5	3.33	5.74	60.19	3.33	5.74	60.19	6.43	11.09	56.20
6	3.07	5.29	65.49	3.07	5.29	65.49	5.38	9.28	65.49

Table 18 Indicator of career planning for Chinese University Students have 6 factors as a follow: factor 1 can explain highest cumulative percentage to 11.54, factor 2 can explain percentage of variance to 11.22, factor 3 can explain percentage of variance to 11.21, factor 4 can explain percentage of variance to 11.15, factor 5 can explain percentage of variance to 11.09 and factor 6 can explain percentage of variance to 9.28. Every factor can explain a cumulative percentage of 65.49.

4.1.5 Exploratory factor analysis of indicators career planning factors for Chinese University Students

The researcher analyzed the exploratory factor analysis of Principal Component Analysis for Orthogonal Rotation of the Varimax Method in table.

Table 19 Exploratory factor analysis of indicators career planning factors for Chinese University Students (n=400)

Factors	Indicator	Factor Loading
Self-Cognition Eigenvalues to 11.54 Cumulative percentage to 11.54	IN 1 I have a clear understanding of my strengths and weaknesses.	0.79
	IN 2 I believe my personality is suited to my target career.	0.77
	IN 3 I have a clear understanding of my personal interests.	0.74
	IN 4 I believe my values align with the requirements of my target career.	0.73
	IN 5 I have a clear understanding of my career motivations.	0.73
	IN 6 I believe my communication skills meet the requirements of my target career.	0.73
	IN 7 I believe my leadership skills meet the requirements of my target career.	0.71
	IN 8 I believe my problem-solving skills meet the requirements of my target career.	0.71
	IN 9 I believe my time management skills meet the requirements of my target career.	0.70
	IN 10 I believe my innovative skills meet the requirements of my target career.	0.69
Social Cognition Eigenvalues to 11.22 cumulative percentage to 22.76	IN 11 I understand the overall employment market situation.	0.82
	IN 12 I believe my major is competitive in the current employment market.	0.77
	IN 13 I am aware of the soft skills required for my target career.	0.77
	IN 14 I believe social relationships are important for career development.	0.77
	IN 15 I am aware of the policies and regulations in the industry of my target career.	0.76
	IN 16 I believe teamwork is important in my target career.	0.75
	IN 17 I am aware of the competitive landscape in the industry of my target career.	0.74

Table 19 (continued)

Factors	Indicator	Factor Loading
	IN 18 I believe continuous learning is important for career development.	0.74
	IN 19 I am aware of the innovative trends in the industry of my target career.	0.72
	IN 20 I believe practical experience is important for job hunting.	0.71
Career Cognition Eigenvalues to 11.21 Cumulative percentage to 33.97	IN 21 I have a clear understanding of the type of career I want to pursue.	0.85
	IN 22 I am familiar with the job duties and responsibilities of my target career.	0.79
	IN 23 I believe my professional skills match the requirements of my target career.	0.76
	IN 24 I hold an optimistic view of the industry prospects of my target career.	0.73
	IN 25 I frequently follow industry trends related to my target career.	0.71
	IN 26 I believe my target career aligns with my personal values.	0.71
	IN 27 I am aware of the promotional pathways and development opportunities within my target career.	0.71
	IN 28 I am satisfied with the work environment of my target career.	0.70
	IN 29 I believe my target career can leverage my personal strengths.	0.70
	IN 30 I am satisfied with the income level of my target career.	0.70
Career Decision-Making Eigenvalues to 11.15 Cumulative percentage to 45.11	IN 31 I have made a clear decision regarding my future career development.	0.81
	IN 32 My career decision is based on sufficient information and analysis.	0.76
	IN 33 I am satisfied with my career decision.	0.74
	IN 34 I believe my career decision aligns with my family's expectations.	0.73

Table 19 (continued)

Factors	Indicator	Factor Loading
	IN 35 I have developed a plan to achieve my career goals.	0.73
	IN 36 I believe my career decision is feasible.	0.73
	IN 37 I am willing to put in the effort to achieve my career goals.	0.72
	IN 38 I believe my career decision will lead to a sense of fulfillment.	0.71
	IN 39 I have considered the potential risks involved in my career decision.	0.71
	IN 40 I believe my career decision aligns with my long-term goals.	0.69
Plan of Career Eigenvalues to 11.09 Cumulative percentage to 56.20	IN 41 I have developed a detailed study plan to support my career development.	0.82
	IN 42 My study plan has clear goals and timelines.	0.76
	IN 43 I frequently review the execution of my study plan.	0.76
	IN 44 I have arranged practical activities related to my target career.	0.74
	IN 45 I believe my study plan helps improve my professional skills.	0.73
	IN 46 I joined clubs or organizations related to my target career.	0.73
	IN 47 I regularly update and adjust my study plan to adapt to changes.	0.72
	IN 48 I have set short-term and long-term study milestones.	0.71
	IN 49 I believe my study plan enhances my employment ability.	0.69
	IN 50 I have prepared for possible career transitions or further education.	0.68

Table 19 (continued)

Factors	Indicator	Factor Loading
Work Implementation Eigenvalues to 9.28 cumulative percentage to 65.49	IN 51 I have already begun implementing my career plan.	0.86
	IN 52 I can consistently follow through with the tasks in my career plan.	0.76
	IN 53 I frequently reflect on and review the progress of my career plan implementation.	0.76
	IN 54 I have established a professional network for career development.	0.76
	IN 55 I believe I can actively cope with challenges encountered in the implementation of my career plan.	0.73
	IN 56 I have gained relevant experience through practical work or internships related to my target career.	0.72
	IN 57 I believe I have maintained a positive attitude throughout the implementation of my career plan.	0.73
	IN 58 I have adjusted my personal development plan based on the progress of my career plan.	0.72
	IN 59 I believe I have made substantial progress in implementing my career plan.	0.72
	IN 60 I am confident about my future career development.	0.66

As Table 19 shows, Exploratory factor analysis of Principal Component Analysis for Orthogonal Rotation of Varimax Method. The researcher use criteria to choose indicators that have Eigenvalues higher than 2.00, factor loading higher than 2.00, and indicators that are according with the factor. Career planning factors for Chinese University Students have 6 factors comprising self-cognition, social cognition, career cognition, career decision-making, plan of career and work implementation.

Factor 1 self-cognition have 10 indicators and factor loading between 0.71-0.82 as follows: IN 1 I have a clear understanding of my strengths and weaknesses, IN 2 I believe my personality is suited to my target career, IN 3 I have a clear understanding of my personal interests, IN 4 I believe my values align with the requirements of my target career, IN 5 I have a clear understanding of my career motivations, IN 6 I believe my

communication skills meet the requirements of my target career, IN 7 I believe my leadership skills meet the requirements of my target career, IN 8 I believe my problem-solving skills meet the requirements of my target career, IN 9 I believe my time management skills meet the requirements of my target career and IN 10 I believe my innovative skills meet the requirements of my target career.

Factor 2 social cognition have 10 indicators and factor loading between 0.71-0.82 as follows: IN 11 I understand the overall employment market situation, IN 12 I believe my major is competitive in the current employment market, IN 13 I am aware of the soft skills required for my target career, IN 14 I believe social relationships are important for career development, IN 15 I am aware of the policies and regulations in the industry of my target career, IN 16 I believe teamwork is important in my target career, IN 17 I am aware of the competitive landscape in the industry of my target career, IN 18 I believe continuous learning is important for career development, IN 19 I am aware of the innovative trends in the industry of my target career and IN 20 I believe practical experience is important for job hunting.

Factor 3 career cognition have 10 indicators and factor loading between 0.70-0.85 as follows: IN 21 I have a clear understanding of the type of career I want to pursue, IN 22 I am familiar with the job duties and responsibilities of my target career, IN 23 I believe my professional skills match the requirements of my target career, IN 24 I hold an optimistic view of the industry prospects of my target career, IN 25 I frequently follow industry trends related to my target career, IN 26 I believe my target career aligns with my personal values, IN 27 I am aware of the promotional pathways and development opportunities within my target career, IN 28 I am satisfied with the work environment of my target career, IN 29 I believe my target career can leverage my personal strengths and IN 30 I am satisfied with the income level of my target career.

Factor 4 career decision-making has 10 indicators and factor loading between 0.69-0.81 as follows: IN 31 I have made a clear decision regarding my future career development, IN 32 My career decision is based on sufficient information and analysis, IN 33 I am satisfied with my career decision, IN 34 I believe my career decision aligns

with my family's expectations, IN 35 I have developed a plan to achieve my career goals, IN 36 I believe my career decision is feasible, IN 37 I am willing to put in the effort to achieve my career goals, IN 38 I believe my career decision will lead to a sense of fulfillment, IN 39 I have considered the potential risks involved in my career decision and IN 40 I believe my career decision aligns with my long-term goals.

Factor 5 plan of career have 10 indicators and factor loading between 0.68-0.82 as follows: IN 41 I have developed a detailed study plan to support my career development, IN 42 My study plan has clear goals and timelines, IN 43 I frequently review the execution of my study plan, IN 44 I have arranged practical activities related to my target career, IN 45 I believe my study plan helps improve my professional skills, IN 46 I joined clubs or organizations related to my target career, IN 47 I regularly update and adjust my study plan to adapt to changes, IN 48 I have set short-term and long-term study milestones, IN 49 I believe my study plan enhances my employment ability and IN 50 I have prepared for possible career transitions or further education.

Factor 6 work implementation have 8 indicators and factor loading between 0.66-0.86 as follows: IN 51 I have already begun implementing my career plan, IN 52 I can consistently follow through with the tasks in my career plan, IN 53 I frequently reflect on and review the progress of my career plan implementation, IN 54 I believe I can actively cope with challenges encountered in the implementation of my career plan, IN 55 I have gained relevant experience through practical work or internships related to my target career, IN 56 I believe I have maintained a positive attitude throughout the implementation of my career plan, IN 57 I have adjusted my personal development plan based on the progress of my career plan and IN 58 I believe I have made substantial progress in implementing my career plan.

4.1.6 Assumption examination of career planning factors for the Chinese University Students measurement model and the empirical data

Researcher analyzed examine of career planning factors for Chinese University Students measurement model found that the of career planning factors for Chinese University Students measurement model was not fit with the empirical data. Researcher

adjust Theta-Epsilon until career planning factors for Chinese University Students measurement model was fit with the empirical data in the table.

Table 20 Fit indiced and Acceptable Fit indices of career planning factors for Chinese University Students measurement model (n=400)

Indices	Accept Fit Indices
χ^2	χ^2=1670.35 df =1584 (p=0.06)
GFI	0.91
AGFI	0.90
CFI	1.00
RMSEA	0.01
SRMR	0.03

Table 20 due to this Chi-Square equal to 1670.35, Degree of Freedom equal to 1584, and p-value equal to 0.06 did not significant. It can therefore be interpreted as empirical data fit with a measurement model. Goodness of Fit Index equal to 0.91, Adjusted Goodness of Fit Index equal to 0.90, Comparative Fit Index is equal 1.00 including Root Mean Square Error of Approximation equal to 0.01 and Standard Root Mean Square Residual equal to 0.03, to summarize career planning factors for Chinese University Students was fit with empirical data. The school belonging model had six factors comprising self-cognition, social cognition, career cognition, career decision-making, plan of career and work implementation in a table.

Table 21 Confirmatory factor analysis of career planning factors for Chinese University Students measurement model (n=400)

Career Planning	β	SE	t	CR
Self-Cognition	**0.70**	**0.05**	**13.31***	**0.49**
IN 1 I have a clear understanding of my strengths and weaknesses.	0.89	-	-	0.79
IN 2 I believe my personality is suited to my target career.	0.72	0.05	17.55*	0.52
IN 3 I have a clear understanding of my personal interests.	0.78	0.04	19.94*	0.60
IN 4 I believe my values align with the requirements of my target career.	0.79	0.04	20.74*	0.63
IN 5 I have a clear understanding of my career motivations.	0.72	0.05	17.63*	0.52
IN 6 I believe my communication skills meet the requirements of my target career.	0.77	0.04	19.64*	0.59
IN 7 I believe my leadership skills meet the requirements of my target career.	0.75	0.04	18.89*	0.56
IN 8 I believe my problem-solving skills meet the requirements of my target career.	0.75	0.04	18.93*	0.57
IN 9 I believe my time management skills meet the requirements of my target career.	0.79	0.04	20.56*	0.63
IN 10 I believe my innovative skills meet the requirements of my target career.	0.73	0.05	18.08*	0.54
Social Cognition	**0.64**	**0.05**	**12.93***	**0.41**
IN 11 I understand the overall employment market situation.	0.89	-	-	0.80
IN 12 I believe my major is competitive in the current employment market.	0.76	0.04	19.60*	0.58

Table 21 (continued)

Career Planning	β	SE	t	CR
IN 13 I am aware of the soft skills required for my target career.	0.80	0.04	21.33*	0.64
IN 14 I believe social relationships are important for career development.	0.77	0.04	19.82*	0.59
IN 15 I am aware of the policies and regulations in the industry of my target career.	0.78	0.04	20.08*	0.60
IN 16 I believe teamwork is important in my target career.	0.74	0.04	18.72*	0.55
IN 17 I am aware of the competitive landscape in the industry of my target career.	0.79	0.04	20.85*	0.63
IN 18 I believe continuous learning is important for career development.	0.79	0.04	20.99*	0.63
IN 19 I am aware of the innovative trends in the industry of my target career.	0.74	0.04	18.39*	0.55
IN 20 I believe practical experience is important for job hunting.	0.77	0.04	19.91*	0.59
Career Cognition	**0.67**	**0.05**	**12.93***	**0.46**
IN 21 I have a clear understanding of the type of career I want to pursue.	0.88	-	-	0.81
IN 22 I am familiar with the job duties and responsibilities of my target career.	0.74	0.04	19.15*	0.56
IN 23 I believe my professional skills match the requirements of my target career.	0.82	0.04	21.94*	0.65
IN 24 I hold an optimistic view of the industry prospects of my target career.	0.77	0.04	20.75*	0.62
IN 25 I frequently follow industry trends related to my target career.	0.78	0.04	19.23*	0.64
IN 26 I believe my target career aligns with my personal values.	0.76	0.04	19.65*	0.58

Table 21 (continued)

Career Planning	β	SE	t	CR
IN 27 I am aware of the promotional pathways and development opportunities within my target career.	0.77	0.04	18.23*	0.62
IN 28 I am satisfied with the work environment of my target career.	0.77	0.04	18.88*	0.62
IN 29 I believe my target career can leverage my personal strengths.	0.76	0.04	18.42*	0.58
IN 30 I am satisfied with the income level of my target career.	0.75	0.04	21.33*	0.61
Career Decision-Making	**0.70**	**0.05**	**13.40***	**0.49**
IN 31 I have made a clear decision regarding my future career development.	0.90	-	-	0.78
IN 32 My career decision is based on sufficient information and analysis.	0.76	0.05	18.31*	0.60
IN 33 I am satisfied with my career decision.	0.72	0.04	21.91*	0.67
IN 34 I believe my career decision aligns with my family's expectations.	0.76	0.04	19.77*	0.60
IN 35 I have developed a plan to achieve my career goals.	0.78	0.04	19.72*	0.59
IN 36 I believe my career decision is feasible.	0.72	0.05	19.01*	0.57
IN 37 I am willing to put in the effort to achieve my career goals.	0.81	0.04	19.57*	0.60
IN 38 I believe my career decision will lead to a sense of fulfillment.	0.76	0.04	19.49*	0.58
IN 39 I have considered the potential risks involved in my career decision.	0.76	0.04	19.31*	0.58
IN 40 I believe my career decision aligns with my long-term goals.	0.76	0.05	18.89*	0.58

Table 21 (continued)

Career Planning	β	SE	t	CR
Plan of Career	**0.72**	**0.05**	**13.99***	**0.52**
IN 41 I have developed a detailed study plan to support my career development.	0.90	-	-	0.82
IN 42 My study plan has clear goals and timelines.	0.76	0.04	19.87*	0.58
IN 43 I frequently review the execution of my study plan.	0.82	0.04	22.96*	0.67
IN 44 I have arranged practical activities related to my target career.	0.76	0.04	19.71*	0.58
IN 45 I believe my study plan helps improve my professional skills.	0.78	0.04	20.70*	0.61
IN 46 I joined clubs or organizations related to my target career.	0.72	0.04	18.04*	0.52
IN 47 I regularly update and adjust my study plan to adapt to changes.	0.71	0.04	22.16*	0.51
IN 48 I have set short-term and long-term study milestones.	0.76	0.04	20.06*	0.58
IN 49 I believe my study plan enhances my employment ability.	0.76	0.04	19.77*	0.58
IN 50 I have prepared for possible career transitions or further education.	0.76	0.04	20.05*	0.58
Work Implementation	**0.67**	**0.05**	**13.10***	**0.46**
IN 51 I have already begun implementing my career plan.	0.94	-	-	0.89
IN 52 I can consistently follow through with the tasks in my career plan.	0.77	0.04	21.11*	0.59
IN 53 I frequently reflect on and review the progress of my career plan implementation.	0.70	0.04	18.04*	0.50
IN 54 I believe I can actively cope with challenges encountered in the implementation of my career plan.	0.80	0.04	23.40*	0.65

Table 21 (continued)

Career Planning	β	SE	t	CR
IN 55 I have gained relevant experience through practical work or internships related to my target career.	0.75	0.04	20.33*	0.56
IN 56 I believe I have maintained a positive attitude throughout the implementation of my career plan.	0.79	0.04	22.41*	0.62
IN 57 I have adjusted my personal development plan based on the progress of my career plan.	0.77	0.04	21.34*	0.59
IN 58 I believe I have made substantial progress in implementing my career plan.	0.78	0.04	21.95*	0.61

*p<0.05

According to table 21, the confirmatory factor analysis of career planning factors for Chinese University Students had significantly at .05 levels. The factors of each are as follows, in descending order: plan of career had the highest factor loading (β=0.72), self-cognition and career decision-making (β=0.70) career cognition and work implementation (β=0.67) and social cognition had the lowest factor loading (β=0.64).

Self-Cognition the indicators of each are as follows, in descending order had IN 1 I have a clear understanding of my strengths and weaknesses the highest factor loading (β=0.89), IN 4 I believe my values align with the requirements of my target career and IN 9 I believe my time management skills meet the requirements of my target career (β=0.79), IN 3 I have a clear understanding of my personal interests (β=0.78), IN 6 I believe my communication skills meet the requirements of my target career (β=0.77), IN 7 I believe my leadership skills meet the requirements of my target career and IN 8 I believe my problem-solving skills meet the requirements of my target career (β=0.75), IN 10 I believe my innovative skills meet the requirements of my target career (β=0.73)

and IN 2 I believe my personality is suited to my target career and IN 5 I have a clear understanding of my career motivations had the lowest factor loading (β=0.72).

Social cognition the indicators of each are as follows, in descending order IN 11 I understand the overall employment market situation had the highest factor loading (β=0.89), IN 13 I am aware of the soft skills required for my target career (β=0.80), IN 17 I am aware of the competitive landscape in the industry of my target career and IN 18 I believe continuous learning is important for career development (β=0.79) IN 15 I am aware of the policies and regulations in the industry of my target career (β=0.78) IN 14 I believe social relationships are important for career development and IN 20 I believe practical experience is important for job hunting (β=0.77) IN 12 I believe my major is competitive in the current employment market (β=0.76) and IN 16 I believe teamwork is important in my target career and IN 19 I am aware of the innovative trends in the industry of my target career had the lowest factor loading (β=0.74).

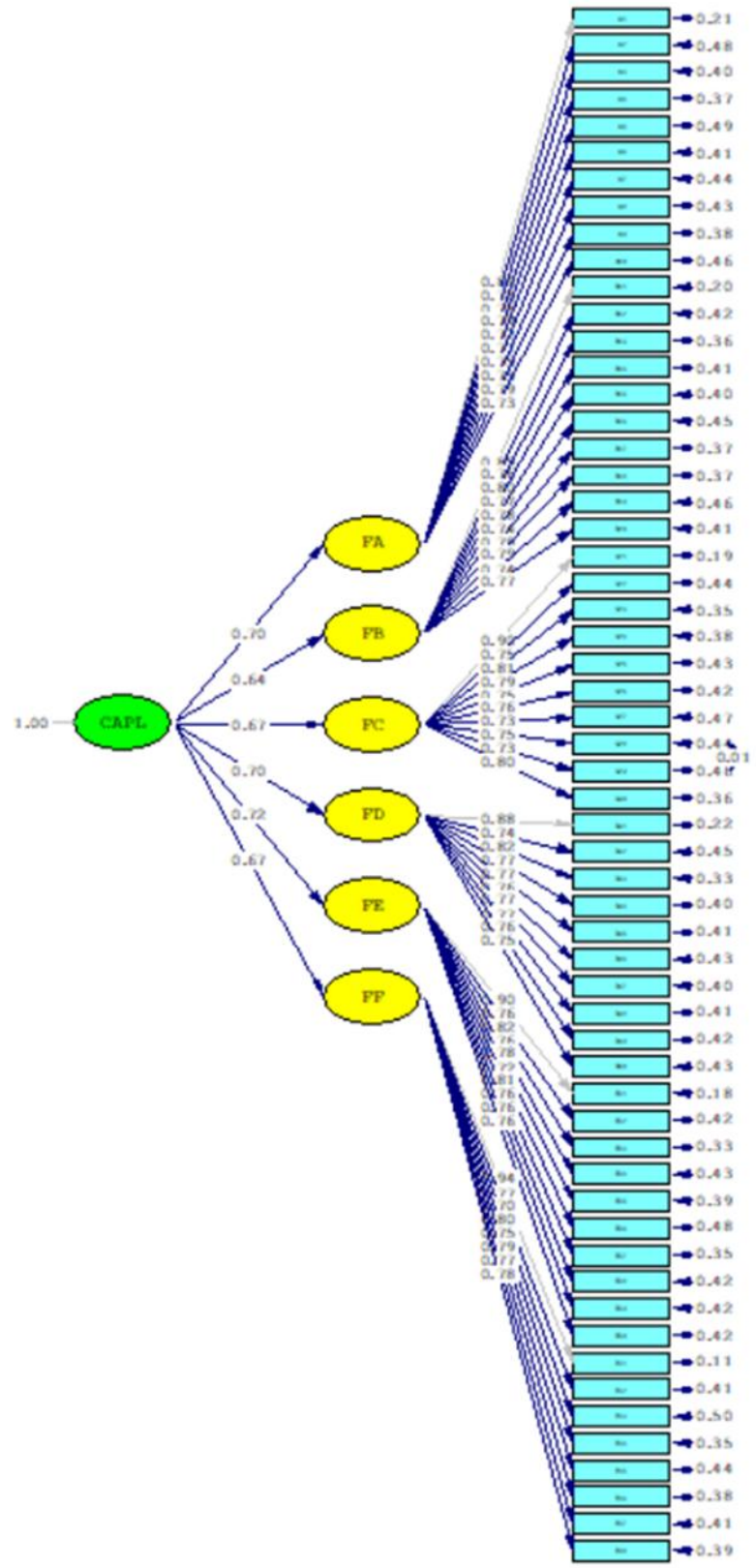
Career cognition the indicators of each are as follows, in descending order IN 21 I have a clear understanding of the type of career I want to pursue had the highest factor loading (β=0.88), IN 23 I believe my professional skills match the requirements of my target career (β=0.82), IN 25 I frequently follow industry trends related to my target career (β=0.78) IN 24 I hold an optimistic view of the industry prospects of my target career, IN 27 I am aware of the promotional pathways and development opportunities within my target career and IN 28 I am satisfied with the work environment of my target career (β=0.77), IN 26 I believe my target career aligns with my personal values and IN 29 I believe my target career can leverage my personal strengths (β=0.76), IN 30 I am satisfied with the income level of my target career (β=0.75) and IN 22 I am familiar with the job duties and responsibilities of my target career had the lowest factor loading (β=0.74).

Career decision-making the indicators of each are as follows, in descending order IN 31 I have made a clear decision regarding my future career development had the highest factor loading (β=0.90), IN 37 I am willing to put in the effort to achieve my career goals (β=0.81), IN 35 I have developed a plan to achieve my career goals

(β=0.78), IN 32 My career decision is based on sufficient information and analysis, IN 34 I believe my career decision aligns with my family's expectations, IN 38 I believe my career decision will lead to a sense of fulfillment, IN 39 I have considered the potential risks involved in my career decision and IN 40 I believe my career decision aligns with my long-term goals (β=0.76) and IN 33 I am satisfied with my career decision and IN 36 I believe my career decision is feasible had the lowest factor loading (β=0.72).

Plan of career the indicators of each are as follows, in descending order IN 41 I have developed a detailed study plan to support my career development had the highest factor loading (β=0.90), IN 43 I frequently review the execution of my study plan (β=0.82), IN 45 I believe my study plan helps improve my professional skills (β=0.78), IN 42 My study plan has clear goals and timelines, IN 44 I have arranged practical activities related to my target career, IN 48 I have set short-term and long-term study milestones, IN 49 I believe my study plan enhances my employment ability and IN 50 I have prepared for possible career transitions or further education (β=0.76), IN 46 I joined clubs or organizations related to my target career (β=0.72) and IN 47 I regularly update and adjust my study plan to adapt to changes had the lowest factor loading (β=0.71).

Work implementation the indicators of each are as follows, in descending order IN 51 I have already begun implementing my career plan had the highest factor loading (β=0.94), IN 54 I believe I can actively cope with challenges encountered in the implementation of my career plan (β=0.80), IN 56 I believe I have maintained a positive attitude throughout the implementation of my career plan (β=0.79), IN 58 I believe I have made substantial progress in implementing my career plan (β=0.78), IN 52 I can consistently follow through with the tasks in my career plan and IN 57 I have adjusted my personal development plan based on the progress of my career plan (β=0.77), IN 55 I have gained relevant experience through practical work or internships related to my target career (β=0.75) and IN 53 I frequently reflect on and review the progress of my career plan implementation had the lowest factor loading (β=0.70).



χ^2=1670.35 df=1584 p=0.06 GFI=0.91 AGFI=0.90 CFI=1.00 RMSEA=0.01 SRMR=0.03

Figure 4 Career planning factors for Chinese University Students measurement model

4.2 Results of Phase 2: Quantitative and Qualitative Analysis for the Intervention Program of Integrative Group Counseling

Building upon the findings from the initial phase, the second stage of this research focuses on implementing an intervention program designed to enhance career planning competencies among students with specific needs. The program incorporates Cognitive Behavioral Therapy (CBT), Social Cognitive Career Theory (SCCT), and Mindfulness-Based Cognitive Therapy (MBCT) as its theoretical framework. To rigorously assess the intervention efficacy of the integrative group counseling modality on participants' career planning competencies, a standardized assessment protocol was implemented utilizing the validated Chinese College Student Career Planning Scale. This psychometric instrument was administered under controlled conditions to both experimental (intervention) and control (treatment-as-usual) groups following a triple-wave longitudinal design: baseline assessment(T1), immediate post-test evaluation (T2), and 1-month follow-up measurement (T3).

The subsequent analytical section presents comprehensive findings derived from both quantitative (e.g., repeated measures ANOVA, effect size calculations) and qualitative (thematic analysis of reflective journals) methodologies, thereby providing multi-method evidence for intervention effectiveness evaluation.

4.2.1 Demographic Data of the Experimental and Control Groups.

4.2.2 Descriptive Statistics between Experimental and Control Groups (Pre-test, Post-test and Follow-up Periods)

4.2.3 Comparative Analysis Between Experimental and Control Groups

4.2.4 Qualitative Insights from Semi-structured Interviews on Career Planning

4.2.5 Summary of Results in Phase 2

4.2.1 Demographic Data of the Experimental and Control Groups.

The second phase employed a quasi-experimental design involving 20 participants selected from the lowest quartile of career planning competency scores (bottom 25%) in the initial study phase. Participants were recruited through voluntary enrollment and randomly assigned with equal allocation to either the experimental group (n=10) or the control group (n=10). The experimental group received comprehensive

group counseling interventions, while the control group remained untreated under natural observation conditions. Detailed demographic characteristics for both groups are systematically presented in the accompanying table, ensuring transparency in sample composition.

Table 22 Demographic characteristics of the participants in experimental group (n = 10)

Demographic	Frequency (n)	Percentage (%)
Gender		
Male	6	60
Female	4	40
Grade		
Junior	4	40
Senior	6	60
Faculty		
Faculty of Music	4	40
Faculty of Fine Arts	3	30
Faculty of Drama	2	20
Faculty of Arts Management	1	10

Table 22 due to the experimental group comprised 10 undergraduate students drawn from four distinct academic faculties who participated in the comprehensive group counseling intervention program. As delineated in the accompanying table, the participant characteristics revealed the following distribution: gender composition showed 40% female and 60% male representation; academic standing consisted of 40% junior-year and 60% senior-year students; disciplinary distribution indicated 60% were enrolled in Performance Arts majors while 40% were Expressive Arts majors.

Table 23 Demographic characteristics of the participants in control group (n = 10)

Demographic	Frequency (n)	Percentage (%)
Gender		
Male	5	50
Female	5	50
Grade		
Junior	6	60
Senior	4	40
Faculty		
Faculty of Music	2	20
Faculty of Fine Arts	3	30
Faculty of Drama	2	20
Faculty of Film and Television	1	10
Faculty of Dance	2	20

As shown in Table 23, the control group was composed of 10 undergraduate students from five distinct academic majors. These participants voluntarily joined the control group and did not engage in the integrative group counseling intervention, thereby serving as a baseline for comparative analysis. As delineated in the accompanying table, the participant characteristics revealed the following distribution: gender composition showed 50% female and 50% male representation; academic standing consisted of 60% junior-year and 40% senior-year students; disciplinary distribution indicated 60% were enrolled in Performance Arts majors while 40% were Expressive Arts majors.

4.2.2 Descriptive Statistics between Experimental and Control Groups (Pre-test, Post-test and Follow-up Periods)

Prior to executing inferential comparisons, descriptive statistics—means and standard deviations—are reported for the experimental and control groups at the pre-

test, post-test, and follow-up stages. Presenting these figures enables an initial appraisal of temporal shifts in each cohort, clarifying whether the intervention produced meaningful gains in the experimental group, whether the control group remained stable or exhibited variation, and whether any improvements persisted through the follow-up assessment. These preliminary findings furnish the empirical groundwork for the ensuing, more comprehensive statistical analyses.

The descriptive analysis of the intervention data reveals several key findings regarding the program's effectiveness and between-group differences. At baseline, the experimental (n=10) and control groups (n=10) demonstrated equivalent scores across all measured variables, with no statistically significant differences observed (all p-values >0.05), confirming successful randomization. Notably, the career planning total scores showed nearly identical means (Experimental: M=142.90, SD=15.57; Control: M=142.00, SD=3.53) with $t(18)=0.178$, $p=0.862$, while other domains similarly exhibited trivial between-group differences (Cohen's $d < 0.2$).

Following the intervention, the experimental group displayed substantial improvements across all outcome measures, with particularly large effect sizes observed in career decision-making ($d=4.32$) and career planning total scores ($\Delta M=+118.7$ points, $d=5.01$). All within-group changes for the experimental condition reached statistical significance ($p<0.001$), while the control group maintained stable scores across all domains (all p-values >0.27), with maximum mean changes not exceeding 1.9 points. Post-test between-group comparisons revealed large to very large treatment effects, particularly in career implementation ($\Delta M=22.00$, $d=4.21$) and social cognition ($\Delta M=16.60$, $d=2.34$), all statistically significant ($p<0.001$). The consistently higher standard deviations in the experimental group's post-test scores suggest the intervention may have produced differential responsiveness among participants. These findings collectively demonstrate the intervention's robust effects while establishing the control group's stability, thereby satisfying key methodological prerequisites for subsequent inferential analyses of treatment efficacy. The results indicate both statistical and clinical

significance, with mean improvements exceeding 1.5 standard deviations in critical career development domains.

4.2.3 Comparative Analysis Between Experimental and Control Groups

Difference analysis represents a core statistical methodology employed to evaluate whether observed variations between experimental groups reflect true population differences or random sampling fluctuations. As a specialized form of hypothesis testing, this approach systematically examines the statistical significance of disparities between sample data and theoretical population parameters. The fundamental premise involves determining whether deviations from null hypotheses stem from actual population characteristics or measurement variability, thereby necessitating rigorous significance testing procedures. The analytical framework primarily operates through mean comparison techniques, quantifying inter-group differences while controlling for random error. This methodological approach serves dual purposes: identifying statistically reliable patterns in experimental data and informing subsequent intervention strategies. Within research applications, difference analysis manifests through two principal statistical techniques, each with distinct operational parameters. The t-test methodology specifically addresses comparisons involving binary categorical variables, such as gender-based performance differences, while analysis of variance (ANOVA) extends this capability to multi-group experimental designs, including educational attainment level comparisons.

The t-test family encompasses three specialized variants with specific research applications. Single-sample t-tests evaluate sample means against known population parameters, whereas two-sample approaches analyze inter-group differences through either independent or paired designs. Independent samples t-tests examine unrelated subject groups, such as distinct control and treatment cohorts, while paired-sample implementations assess within-subject variation across measurement intervals or matched participant sets. This analytical hierarchy provides researchers with graduated precision in experimental difference detection, from basic group comparisons to sophisticated repeated-measures analyses.

The methodological selection between t-tests and ANOVA fundamentally depends on experimental design characteristics, particularly the number of comparison groups and measurement structure. This decision framework ensures appropriate statistical power while maintaining analytical validity, with t-tests optimizing two-group comparisons and ANOVA enabling complex, multi-factor experimental evaluations. Such systematic difference analysis forms the cornerstone of empirical research validation across scientific disciplines, from psychological studies to biomedical trials.

Table 24 Pre-test Comparison Between Experimental and Control Groups

Variable	Group	N	M	S. D.	*t* - value	*p* - value
Self-cognition	Experimental	10	25.00	4.32	-0.089	0.930
	Control	10	25.20	5.65		
Social cognition	Experimental	10	25.50	8.44	-0.024	0.981
	Control	10	25.60	9.87		
Career cognition	Experimental	10	23.10	6.87	-0.911	0.374
	Control	10	25.80	6.37		
Career decision-making	Experimental	10	23.90	5.61	0.135	0.894
	Control	10	23.50	7.47		
Plan of Career	Experimental	10	21.90	5.04	0.316	0.756
	Control	10	21.20	4.87		
Career Implementation	Experimental	10	23.50	6.00	1.209	0.242
	Control	10	20.70	4.19		
Career planning	Experimental	10	142.90	15.57	0.178	0.862
	Control	10	142.00	3.53		

According to Table 24, the statistical analysis reveals no significant baseline differences between the experimental and control groups across all measured variables. For self-cognition, the experimental group (M=25.00) and control group (M=25.20)

showed a negligible difference (t=-0.089, p=0.930). Similarly, social cognition demonstrated comparable means between groups (Experimental: M=25.50; Control: M=25.60; t=-0.024, p=0.981). Career cognition exhibited slightly lower scores in the experimental group (M=23.10 vs. 25.80; t=-0.911, p=0.374), though this difference remained statistically non-significant. The analysis of career decision-making revealed nearly identical group means (Experimental: M=23.90; Control: M=23.50; t=0.135, p=0.894). Plan of Career scores showed marginal variation (Experimental: M=21.90; Control: M=21.20; t=0.316, p=0.756), while Career Implementation displayed a non-significant trend toward higher experimental group scores (M=23.50 vs. 20.70; t=1.209, p=0.242). Crucially, the composite Career Planning scores were virtually equivalent between groups (Experimental: M=142.90; Control: M=142.00; t=0.178, p=0.862).

The independent samples t-tests for all variables yielded p-values exceeding the conventional α=0.05 threshold, confirming the absence of statistically significant pre-test differences. This equivalence in baseline measurements between experimental and control groups (n=10 each) establishes crucial methodological validity, ensuring that any post-test effects can be confidently attributed to the experimental manipulation rather than preexisting group disparities. The demonstrated baseline homogeneity satisfies a fundamental precondition for rigorous experimental design, enhancing the reliability and interpret ability of subsequent intervention effect analyses.

Table 25 Comparison of Pre-test and Post-test Differences in the Experimental Group

Variable	Group	N	M	S. D.	*t* - value	*p* - value
Self-cognition	Pre-test	10	25.00	4.32	-8.511***	0.001
	Post-test	10	43.30	5.89		
Social cognition	Pre-test	10	25.50	8.44	-11.727***	0.001
	Post-test	10	42.70	6.58		
Career cognition	Pre-test	10	23.10	6.87	-6.706***	0.001
	Post-test	10	44.40	5.95		

Table 25 (continued)

Variable	Group	N	M	S. D.	*t* - value	*p* - value
Career decision-making	Pre-test	10	23.90	5.61	-8.126***	0.001
	Post-test	10	44.50	4.50		
Plan of Career	Pre-test	10	21.90	5.04	-12.668***	0.001
	Post-test	10	43.60	5.72		
Career Implementation	Pre-test	10	23.50	6.00	-6.303***	0.001
	Post-test	10	43.10	6.06		
Career planning	Pre-test	10	142.90	15.57	-13.765***	0.001
	Post-test	10	261.60	30.76		

Note:Bold values indicate statistical significance at p < .05; *** denotes significance at p < .001.

As shown in Table 25 above, for Self-cognition, The pre-test mean was 25.00, increasing to 43.30 post-test (t=-8.511, p=0.000). With p<0.05, this indicates an extremely significant improvement. For Social cognition: Scores rose from 25.50 to 42.70 (t=-11.727, p=0.000), demonstrating significant enhancement (p<0.05). For Career cognition: A marked increase from 23.10 to 44.40 was observed (t=-6.706, p=0.000), showing statistically significant improvement (p<0.05). For Career decision-making: The mean improved from 23.90 to 44.50 (t=-8.126, p=0.000), with the extremely small p-value confirming substantial progress. For Plan of Career: Scores showed dramatic growth from 21.90 to 43.60 (t=-12.668, p=0.000), far below the 0.05 threshold. For Career Implementation: Performance increased from 23.50 to 43.10 (t=-6.303, p=0.000), indicating significant improvement (p<0.05). Career planning scores rose from 142.90 to 261.60 (t=-13.765, p=0.000), p<0.05. The results show an extremely significant difference between pre-test and post-test total scores in the experimental group, with the post-test total score showing a substantial increase.

The paired-sample t-test results for all variables and total scores in the experimental group show that all p-values approach 0, far below the conventional

significance threshold of 0.05. This pattern of findings demonstrates that the experimental group showed substantial gains in self-cognition, social cognition, career cognition, career decision-making, plan of career, and career implementation following the intervention period. The comprehensive nature of these improvements, encompassing all measured aspects of career development, provides strong evidence for the effectiveness of the implemented group counseling protocol. We can therefore conclude that the method used in this test was effective and significantly improved the experimental group's performance on all observed variables and overall scores. The experimental method had a positive and significant impact on the experimental group, leading to substantial progress across all aspects after the test. This strongly proves that the experimental method has a promoting and enhancing effect, providing reliable evidence for related research and practical applications. The method could be considered for further promotion or optimization.

Table 26 Comparison of pre-test and post-test Differences in Control Group

Variable	Group	N	M	S. D.	*t* - value	*p* - value
Self-cognition	Pre-test	10	25.20	5.65	0.037	0.972
	Post-test	10	25.10	6.57		
Social cognition	Pre-test	10	25.60	9.87	-0.111	0.914
	Post-test	10	26.10	7.56		
Career cognition	Pre-test	10	25.80	6.37	-0.292	0.777
	Post-test	10	26.60	5.62		
Career decision-making	Pre-test	10	23.50	7.47	-0.299	0.772
	Post-test	10	24.70	7.07		
Plan of Career	Pre-test	10	21.20	4.87	-0.649	0.533
	Post-test	10	22.30	2.21		
Career Implementation	Pre-test	10	20.70	4.19	-0.223	0.829
	Post-test	10	21.10	4.07		

Table 26 (continued)

Variable	Group	N	M	S. D.	*t* - value	*p* - value
Career planning	Pre-test	10	142.00	3.53	-1.167	0.273
	Post-test	10	145.90	9.96		

As shown in Table 26, for self-cognition, the Pre-test mean is 25.20, the post-test is 25.10, t=0.037, p=0.972. p>0.05 indicates no significant difference, with minimal change. For social cognition, Pre-test mean is 25.60, post-test is 26.10, t=-0.111, p=0.914. p>0.05 shows an insignificant change. For career cognition, Pre-test mean is 25.80, post-test is 26.60, t=-0.292, p=0.777. p>0.05 demonstrates no notable difference. For career decision-making, Pre-test mean is 23.50, post-test is 24.70, t=-0.299, p=0.772. The large p-value indicates an non-significant change. For the plan of career, Pre-test mean is 21.20, post-test is 22.30, t=-0.649, p=0.533. p>0.05 confirms no significant variation. For career implementation, Pre-test mean is 20.70, post-test is 21.10, t=-0.223, p=0.829. p>0.05 means an insignificant difference. Career planning scores, Pre-test mean is 142.00, post-test is 145.90, t=-1.167, p=0.273. p>0.05 suggests minimal change with no statistical significance.

The paired-samples t-test results for all variables and total scores in the control group indicate that all p-values far exceed the conventional significance threshold of 0.05. This clearly demonstrates that without implementing the experimental method, the control group showed no significant changes in self-cognition, social cognition, career cognition, career decision-making, plan of career, career implementation, or career planning scores between pre-test and post-test measurements. We can therefore conclude that during the experimental process, the control group exhibited no significant changes under natural conditions. In stark contrast, the experimental group showed significant improvements across all indicators after receiving the experimental intervention, while the control group showed no significant changes. This strongly proves that the integrative group counseling was the key factor causing changes in the

experimental group. The method demonstrates clear effectiveness and specificity. It effectively eliminates interference from other irrelevant factors on the experimental results. The results provide robust evidence that the experimental method is the decisive factor in producing the observed effects, while ruling out alternative explanations for the changes.

Table 27 Post-test Comparison Between Experimental and Control Groups

Variable	Group	N	M	S. D.	*t* - value	*p* - value
Self-cognition	Experimental	10	43.30	5.89	6.521***	0.001
	Control	10	25.10	6.57		
Social cognition	Experimental	10	42.70	6.58	5.235***	0.001
	Control	10	26.10	7.56		
Career cognition	Experimental	10	44.40	5.95	6.878 ***	0.001
	Control	10	26.60	5.62		
Career decision-making	Experimental	10	44.50	4.50	7.468***	0.001
	Control	10	24.70	7.07		
Plan of Career	Experimental	10	43.60	5.72	10.983***	0.001
	Control	10	22.30	2.21		
Career Implementation	Experimental	10	43.10	6.06	9.528***	0.001
	Control	10	21.10	4.07		
Career planning	Experimental	10	261.60	30.76	11.316***	0.001
	Control	10	145.90	9.96		

Note:Bold values indicate statistical significance at $p < .05$; *** denotes significance at $p < .001$.

According to Table 27, the post-test comparative analysis reveals statistically significant differences between the experimental and control groups across all measured variables. For self-cognition, the experimental group (M=43.30, SD=5.89) significantly

outperformed the control group (M=25.10, SD=6.57), t(18)=6.521, p<0.001. Similarly, for social cognition, the experimental group's mean score of 42.70 (SD=6.58) was substantially higher than the control group's 26.10 (SD=7.56), t(18)=5.235, p<0.001. This pattern of significant differences persisted across all variables: career cognition (44.40 vs 26.60, t=6.878), career decision-making (44.50 vs 24.70, t=7.468), plan of career (43.60 vs 22.30, t=10.983), and career implementation (43.10 vs 21.10, t=9.528), all ps<0.001. The career planning score comparison showed the most pronounced difference, with the experimental group averaging 261.60 (SD=30.76) compared to the control group's 145.90 (SD=9.96), t(18)=11.316, p<0.001. These robust findings consistently demonstrate the experimental group's superior performance across all measures following the intervention, with all comparisons reaching statistical significance at p<0.001, indicating less than a 0.1% probability that these differences occurred by chance. The large effect sizes (t-values ranging from 5.235 to 11.316) further confirm the substantial magnitude of these differences, providing compelling evidence for the effectiveness of the experimental intervention.

The results of the independent samples t-tests for all variables and total scores in the post-test assessment show that all p-values approach zero, significantly below the conventional significance threshold of 0.05. This clearly demonstrates that after the experiment, the experimental group and control group exhibited statistically significant differences in variables self-cognition, social cognition, career cognition, career decision-making, plan of career, and career implementation or career planning scores, with the experimental group performing significantly better than the control group across all measures. We can therefore conclude that the integrative group counseling was effective. The integrative group counseling produced positive and significant effects on the experimental group, creating substantial differences between groups across all observed variables and total scores. This confirms that the intervention methods employed in the experiment effectively modified the relevant indicators in participants, achieving the intended experimental outcomes. These findings provide strong support for further research and practical applications of this methodology.

Table 28 Comparison of Post-test and One-Month Follow-Up Scores in Experimental and Control Groups

Variable	Group	N	M	S. D.	*t* - value	*p* - value
Self-cognition	Experimental	10	42.90	6.01	6.397***	0.001
	Control	10	25.30	6.38		
Social cognition	Experimental	10	42.40	6.45	5.124***	0.001
	Control	10	25.90	7.34		
Career cognition	Experimental	10	44.00	6.23	6.482***	0.001
	Control	10	27.00	6.81		
Career decision-making	Experimental	10	44.30	5.88	7.182***	0.001
	Control	10	24.80	7.10		
Plan of Career	Experimental	10	43.10	5.90	10.224***	0.001
	Control	10	22.10	6.57		
Career Implementation	Experimental	10	42.80	6.34	9.384***	0.001*
	Control	10	20.90	6.70		
Career planning	Experimental	10	259.50	13.02	12.844***	0.001*
	Control	10	145.80	14.66		

Note:Bold values indicate statistical significance at p < .05; *** denotes significance at p < .001.

As shown in Table 28, a follow-up comparison was conducted one month after the intervention between the experimental and control groups across six core dimensions of career planning and the total score. The experimental group maintained high scores in all dimensions, which remained consistent with their post-test results, indicating the sustained effectiveness of the integrative group counseling program. In contrast, the control group exhibited no notable improvements in any domain. Specifically, the experimental group scored a mean of 42.90 (SD = 6.01) in self-cognition, while the control group scored 25.30 (SD = 6.38), t(18) = 6.397, p < 0.001. Similarly, the experimental group significantly outperformed the control group in social cognition (M = 42.40 vs. 25.90, t = 5.124), career cognition (M = 44.00 vs. 27.00, t = 6.482), career

decision-making (M = 44.30 vs. 24.80, t = 7.182), plan of career (M = 43.10 vs. 22.10, t = 10.224), and career implementation (M = 42.80 vs. 20.90, t = 9.384), all with p-values less than 0.001. In terms of overall performance, the total score for the experimental group remained high at 259.50 (SD = 13.02), while the control group averaged 145.80 (SD = 14.66), with a significant between-group difference ($t = 12.844$, $p < 0.001$). These results clearly demonstrate that the gains made by the experimental group during the intervention phase were not only significant but also sustained over time.

In contrast, the scores of the control group were similar to those recorded immediately after the intervention, showing no significant changes. These results suggest that career planning does not experience significant growth over time without systematic intervention.

Taken together, the findings provide strong evidence that the integrative group counseling had a lasting impact on participants' career planning competencies. The persistent and statistically significant differences between the groups suggest that the intervention effectively modified students' attitudes, awareness, and behavioral tendencies related to career planning. This reinforces the validity of the intervention model and supports its practical application in career education for university students.

4.2.4 Qualitative Insights from Semi-structured Interviews on Career Planning

This study employed qualitative research methods to conduct systematic semi-structured interviews with 3 participants from the experimental group who underwent a comprehensive group counseling intervention. The interviews primarily focused on three core dimensions: participants' cognitive transformation process regarding career planning, their experiential journey and developmental trajectory during the group counseling sessions, and their future perspectives on career development. The findings revealed a significant enhancement in career planning competencies among experimental group participants following the intervention. During retrospective interviews, participants were guided through structured self-reflection: first comparing their perceived career planning capabilities before versus after the intervention; then evaluating the relative impact of different counseling modules on their career

development; and finally identifying pivotal moments that served as turning points during the counseling process.

The recorded audio materials were transcribed into textual format and subjected to qualitative analysis using specialized software. This analytical procedure comprised several methodical steps: Initially, a preliminary analysis was conducted to systematically organize the interview data. Subsequently, segments relevant to the research themes (e.g., career planning and career cognition) were identified and highlighted. Significant portions of text were assigned concise codes, such as "enhanced Self-cognition" for improvements in self-cognition and "improved career planning" for augmented career planning competencies.

These coded elements were then categorized to identify recurrent patterns and to formulate preliminary themes. In the final stage, the dataset was re-examined to verify that the emergent themes accurately captured the core content, with necessary adjustments, integrations, or refinements implemented to enhance conceptual clarity. This rigorous process facilitated the systematic identification of transformations in career planning through a comprehensive analysis of interview data.

Through the coding and categorization of relevant textual segments, the study revealed distinctive patterns and themes pertaining to participants' career planning development. This methodological approach enabled researchers to pinpoint specific mechanisms underlying career planning enhancement and determine the fundamental reasons for these changes, thereby yielding a nuanced understanding of the observed transformations. The analytical framework ensured both methodological rigor in data interpretation and theoretical fidelity to participants' experiential accounts.

Partial Interview Record

Theme 1: Career Planning

1. Interview Question: Could you describe your career planning situation prior to participating in the group counseling program? Did you have specific career cognition or a clear direction?

Pre-counseling, students exhibited deficient career planning capacities, relying on occupational stereotypes rather than self-assessment. Most displayed passive tendencies, and students lacked awareness of career assessment tools or longitudinal planning.

Student 1: "Before participating in the group counseling, my understanding of career planning was quite vague, essentially limited to superficial notions like 'finding a job after graduation.' Although the university offered some career guidance lectures, I had never systematically considered my career direction. My knowledge about different industries mainly came from fragmented information shared by family or found online-for instance, thinking that 'the finance sector offers high salaries' or that 'teaching jobs provide more stability.' However, I had never carefully reflected on my own preferences or aptitudes, leaving me with little substantive understanding of potential careers. My mindset was passive: I had never taken a career interest assessment, had no clarity about which roles aligned with my strengths, and certainly hadn't developed any phased development plan. Occasionally, I would feel anxious about the future, but these concerns were quickly overshadowed by daily academic tasks, resulting in a prolonged state of 'planning procrastination.'"

Student 2: "To be honest, before joining the counseling program, my approach to 'career planning' amounted to following the crowd-if classmates were preparing for graduate school entrance exams, I would look into postgraduate programs; if a certain industry was trending, I would consider internships in that field. I constantly wavered: one moment aspiring to civil service jobs for stability, the next drawn to the high salaries of startup companies. I didn't even recognize that a 'career' required proactive long-term design, let alone know what tools could aid in planning. The only preparatory step I had taken was drafting a rudimentary resume template, but I had no idea how to leverage it to achieve career goals. The group counseling made me realize that this 'planless' state was essentially an avoidance of career development-because I lacked systematic knowledge and methods, I substituted long-term thinking with ad hoc decisions."

2. After participating in the comprehensive group counseling program, what changes have you observed in your career planning? In which specific areas are these changes most evident?

Participants reported that their career planning had undergone significant improvements in certain areas following the integrative group counseling sessions.

Student 1: "After joining the group counseling program, my approach to career planning underwent a fundamental transformation. The most notable changes manifested in three key aspects: First, I have now established a systematic planning framework by applying the SMART goal-setting method taught by the counselors to distinguish between short-term tasks and long-term objectives. For instance, I no longer submit job applications indiscriminately but instead conduct thorough self-cognition and positioning analyses first. Second, my approach to gathering career-related information has become more structured. Using the 'Career Information Interview Template' recommended during counseling, I systematically interviewed three professionals in my target industry, gaining insights far more substantial than superficial online searches. Most importantly, there has been a paradigm shift in my mindset-from merely 'job hunting' to strategically 'managing my career trajectory,' which has fundamentally changed how I approach employment opportunities."

Student 2: "The most evident improvement has been in the quality of my career decision-making. The 'Career Anchor Exploration' activity during counseling helped me identify that I value 'creative autonomy' over superficial prestige, leading me to adjust my career direction accordingly. Now, when making decisions, I simultaneously consider: compatibility as indicated by my MBTI personality assessment, five-year industry development trends, and skill development potential within the role. For example, when recently evaluating job offers, although Company A offered a 20% lower starting salary, its well-structured mentorship program and job rotation system better aligned with my 'Specialist' career anchor. This multidimensional evaluation methodology was entirely derived from the training received during group counseling."

3. How do you think the improvement in career planning skills will affect your subsequent studies and daily life?

Students anticipate that enhanced career planning abilities will guide them toward more proactive learning and clearer personal goals.

Student 1: "The advancement in my career planning skills has brought structural changes to my academic life. First, my educational choices have become more purposeful and goal-oriented. For instance, as I aim to become a teacher after graduation, I am now actively preparing for the Teacher Qualification Certificate examination. Second, I have adopted the

'career goal reverse-engineering method' for time management, breaking long-term objectives into smaller milestones. This goal-driven approach has increased my study efficiency by at least 40%."

Student 2: "The most profound impact has been establishing a two-way adjustment mechanism between 'skill development' and 'career requirements.' In terms of personal growth, I have set clear career objectives and begun acquiring relevant skills through targeted training and certification programs. My daily life has also been optimized accordingly- I now prioritize attending industry-related conferences and networking events over purely recreational gatherings. This transformation is not merely a mechanical reallocation of time but reflects the 'career ecosystem building' emphasized during counseling, where learning, practical experience, and networking synergize. Recently, this approach has already enabled me to secure participation in two high-quality projects."

Through systematic group counseling interventions, participants demonstrated significant and multidimensional improvements in career planning competencies. At the cognitive level, a fundamental transformation occurred from passive, fragmented understanding (such as simplistically equating career planning with "job hunting") to proactive, systematic approaches - including establishing structured frameworks (e.g., applying SMART principles and career anchor theory) and developing long-term perspectives of "career management." In terms of methodology and tool application, participants acquired professional techniques, including SWOT analysis and decision balance sheets for scientific planning, with some members reporting up to 40% improvement in learning efficiency. Behavioral modifications exhibited three distinctive characteristics: strong alignment between academic choices and career objectives, proactive development of professional support networks, and establishment of regular review mechanisms - collectively forming a constructive "career ecosystem." These transformations carry substantial theoretical and practical significance. The intervention facilitated a paradigm shift from reactive job-seeking to proactive career design, equipping participants with structured planning tools while fostering sustainable professional development mindsets. The outcomes validate the efficacy of group counseling methodologies in career education and provide empirical support for contemporary career development theories.

Theme 2: Integrative group counseling

1: Which activities or techniques in the group counseling do you think were most effective in improving your career planning skills? Why?

Participants indicated that the integrative group counseling sessions incorporated a variety of techniques that positively contributed to the improvement of their career planning abilities. While the perceived effectiveness of specific methods varied among individuals, the majority emphasized that the SMART goals strategy was especially helpful in fostering clearer goal-setting and actionable planning in their career development process.

Student 1: "For me, the SMART goal-setting method and career anchor exploration activities were most impactful. The SMART method taught me to transform vague aspirations into concrete, measurable action plans. The career anchor activity, through value card sorting and scenario simulations, helped me realize that what I truly pursue is 'work-life balance' rather than superficially high-paying positions, which directly changed my job search strategy."

Student 2: "The ABC model of Cognitive Behavioral Therapy (CBT) and role-playing with industry experts helped me the most. The ABC model (Activating event-Belief-Consequence) helped me identify negative career beliefs and restructure them into more flexible thinking patterns. The role-playing activity allowed me to experience the daily work scenarios of target positions, exposing my shortcomings in data analysis presentations and prompting me to immediately enroll in relevant training."

2. What impact do you think the group counseling had on your career planning? Which factor influenced you the most?

The group counseling significantly enhanced participants' career planning through two key mechanisms: deepened self-awareness and expanded occupational cognition, enabling targeted skill development.

Student 1: "Group counseling had a significant impact on me, with the deepening of Self-cognition being the most transformative. Through the MBTI test and family career tree mapping, I realized that my introverted and intuitive (INTP) traits are more suited to research-oriented rather than sales-related work-a stark contrast to my family's traditional focus on marketing careers. This breakthrough in Self-cognition led me to completely readjust my career

direction and abandon the idea of blindly following family advice. Now, my job search strategy is entirely based on aligning my personal traits with industry needs."

Student 2: "The biggest impact was establishing a virtuous cycle of 'career goals driving behavior,' with the expansion of career cognition playing a key role. The mock interview activity made me realize that my desired public relations role requires not only communication skills but also crisis management and data interpretation abilities-aspects rarely emphasized in traditional job postings. The 'industry competency map' provided by the counselor helped me systematically address these hidden requirements, and now my learning plan is fully aligned with these skill gaps."

Through In-depth interviews with three students, we can know that the development of career planning competencies follows a multidimensional pathway from cognitive reconstruction to behavioral practice, demonstrating distinct stage-specific characteristics and intrinsic transformation mechanisms. The interviews revealed that integrative group counseling has produced systematic and multi-level impacts on participants' career planning competencies, demonstrating a synergistic evolution characterized by cognitive reconstruction, methodological acquisition, and behavioral change. At the cognitive reconstruction level, activities designed based on career construction theory-such as MBTI personality assessments, career anchor exploration, and family career tree mapping-facilitated a qualitative leap from vague understanding to precise self-positioning.

From the interview with three students, we can know, prior to the intervention, participants generally exhibited a lack of systematic understanding regarding career planning. Their career perceptions were often shaped by fragmented or stereotypical external information-for example, viewing “finance” as lucrative or perceiving “teaching” as a stable career path. The majority of students had not engaged in formal self-assessment or vocational interest testing, resulting in unclear personal career direction. Their decision-making processes were largely reactive and imitative, often driven by peer behavior (e.g., preparing for graduate school solely because others were doing so) rather than intrinsic motivation or informed planning. Furthermore, students demonstrated limited awareness of available career development tools and

admitted to procrastinating on career-related decisions due to insufficient guidance, uncertainty, and low self-efficacy.

Following participation in the integrative group counseling program, students reported substantial improvements across multiple dimensions of career planning ability: 1) Strategic Framework Development: Participants adopted structured planning methodologies-such as the SMART goal-setting framework-allowing them to differentiate between short-term tasks and long-term objectives, thereby constructing a coherent career trajectory. 2) Professional Information Acquisition: Students engaged in systematic career exploration by utilizing instruments such as the “Career Information Interview Template.” This facilitated targeted interviews with industry professionals and yielded insights that surpassed the superficiality of typical online searches. 3) Enhanced Self-Knowledge and Decision-Making: Through interventions such as career anchor exploration and MBTI personality profiling, students gained clarity regarding their intrinsic motivations and vocational preferences. As a result, career decisions were increasingly based on multidimensional evaluations incorporating personal compatibility, industry outlook, and long-term skill development opportunities. 4) Mindset Transformation: A fundamental shift occurred in participants' approach to career development-from passive “job hunting” to active and strategic “career management.”

In addition to cognitive gains, students demonstrated positive behavioral transformations in both academic engagement and daily life: 1) Increased Academic Purpose and Direction: Participants began to align their educational choices, course selections, and extracurricular activities with specific career goals. For instance, those aspiring to enter the education sector proactively prepared for teaching qualification examinations and tailored their academic efforts accordingly. 2) Improved Time and Task Management: Students employed reverse-engineering techniques to deconstruct long-term goals into actionable short-term steps, reporting significant increases in study efficiency and time utilization. 3) Formation of a Personal Career Ecosystem: Participants consciously restructured their daily routines to prioritize professional development-attending industry events, cultivating professional networks, and acquiring relevant

certifications. This systemic integration of learning, application, and self-monitoring reflects the core features of sustainable career development.

Moreover, the intervention exerted a multi-level, structured impact on participants' career planning capacities. At the cognitive level, participants progressed from vague conceptualizations to clear and individualized career positioning. This was achieved through activities such as MBTI assessments, career anchor analysis, and family career tree mapping, which facilitated alignment between personal characteristics and occupational demands. The ABC cognitive restructuring model (from cognitive behavioral therapy) was instrumental in reframing negative or dysfunctional career beliefs. At the methodological and skill level, tools such as SMART goal planning and decision balance sheets empowered participants to translate abstract aspirations into executable plans, thereby enhancing both goal management and decision-making quality. At the behavioral level, experiential activities such as mock interviews and role-playing exercises helped participants identify skills gaps, engage in targeted learning, and shift from passive to proactive career behaviors. Interactions with industry professionals and simulations of workplace contexts further enhanced students' understanding of implicit job requirements and narrowed the gap between academic preparation and real-world expectations.

The observed effects reflect a theoretically grounded and well-structured intervention mechanism. The design integrated key concepts from career construction theory (to strengthen self-concept), social learning theory (to broaden occupational cognition), and group dynamics theory (to catalyze motivation for change). Throughout the intervention, a virtuous cycle emerged among cognitive restructuring, method mastery, behavioral transformation, and positive feedback, reinforcing sustainable development of career competencies.

This study affirms that effective career education must incorporate three essential dimensions: self-cognition, industry awareness, and skill development. Furthermore, it underscores the importance of experiential learning and sustained support mechanisms. The unique value of integrative group counseling lies in its multi-

theoretical foundation and cross-domain integration, enabling simultaneous cognitive, emotional, and behavioral development. As such, it offers a replicable and effective framework for modern career education practice.

In conclusion, the qualitative findings validate the substantial impact of integrative group counseling in cultivating holistic career planning competencies among university students. Participants transitioned from passive, uninformed career outlooks to becoming strategic, values-driven, and data-informed career architects. These results underscore the potential of structured psychological interventions to complement traditional education models and enhance students' preparedness for an increasingly dynamic and competitive labor market.

4.2.5 Summary of Results in Phase 2

Building upon the findings from the preliminary exploration of key influencing factors in career planning, the research team implemented the Integrative group counseling intervention for 10 students in the experimental group. This intervention integrated Cognitive Behavioral Therapy (CBT), Social Cognitive Career Theory (SCCT), and Mindfulness-Based Cognitive Therapy (MBCT). It aimed to comprehensively foster the development of career planning abilities among Chinese college students across multiple dimensions, including self-cognition, social cognition, career cognition, career decision-making, plan of career, and career implementation.

To ensure the scientific rigor and reliability of the study, participants were randomly and scientifically divided into an experimental group (n = 10) and a control group (n = 10). The experimental group received the Integrative group counseling intervention, while the control group received no intervention. Data collection was carried out at three critical time points: pre-test (T1), post-test (T2), and follow-up (T3). The quantitative results indicated that there were no significant differences between the experimental and control groups in any indicators during the pre-test phase. This fully demonstrated that the randomization process achieved the desired effect, with both groups starting from similar baseline levels before the intervention. After the implementation of the intervention, the experimental group showed highly significant

improvements ($p < 0.001$) across all domains of career planning, with large effect sizes. For instance, the effect size for career decision-making was $d = 4.32$, and the effect size for the overall career planning score was $d = 5.01$. This suggests that Integrative group counseling had a powerful and positive impact on the career planning abilities of the students in the experimental group. In contrast, the control group showed no significant changes in any indicators ($p > 0.05$), strongly proving the effectiveness of the intervention and indicating that it was indeed Integrative group counseling that brought about the positive transformations in the experimental group. During the follow-up phase, the positive improvements in the experimental group were sustained, further highlighting the long-term efficacy of Integrative group counseling. Inter-group comparisons revealed that the experimental group significantly outperformed the control group in all evaluation indicators ($p < 0.001$). This fully demonstrates that the intervention is not only effective in the short term but also has a lasting impact, helping students maintain and continuously enhance their career planning abilities over time.

Through semi-structured interviews, the qualitative research delved deep into the profound transformations experienced by the experimental group. At the cognitive level, participants' career planning underwent a paradigm shift from vague and passive planning to structured and proactive planning. They actively applied the SMART goal-setting method, making their career goals specific, measurable, achievable, relevant, and time-bound, thus rendering their career plans more actionable. Meanwhile, they explored their career anchors in depth, clarifying the values and needs they prioritize in their careers, thereby providing clear guidance for their career choices.

Behaviorally, the enhancement in career planning abilities, Self-cognition, and career cognition brought about by Integrative group counseling prompted them to precisely develop skills and make academic choices more aligned with their career goals. Students began to proactively stay informed about industry trends and market demands, selectively choosing courses, participating in practical activities, and attending training sessions to accumulate the necessary skills and experiences for their future careers. Emotionally, participants experienced a significant reduction in anxiety

and a substantial boost in confidence in career decision-making. When faced with career choices and planning, they no longer felt lost or helpless but were able to analyze situations calmly, make decisive decisions, and approach future career challenges with a more positive attitude. Combining the quantitative and qualitative research findings, it is evident that Integrative group counseling has a significant and lasting effect on improving college students' career planning abilities. It exerts positive influences on students from multiple dimensions, including cognitive, behavioral, and emotional aspects, helping them construct a comprehensive and systematic career planning framework. Cognitively, it enables students to gain a clearer and deeper understanding of themselves and their careers, clarifying their career goals and development directions. Behaviorally, it motivates students to take practical actions, enhance their skills, and prepare for their career development. Emotionally, it bolsters students' self-confidence and their ability to cope with career challenges, reducing feelings of anxiety and confusion.

These findings carry important implications for both research and practice in the field of career counseling. The demonstrated efficacy of this intervention approach provides empirical support for its theoretical foundations while offering concrete guidance for practitioners. The results suggest that similar protocols could be productively implemented in various educational and organizational settings to promote career development. Future research directions might include investigating the long-term maintenance of these gains, examining potential moderators of treatment effectiveness, and exploring ways to optimize the intervention for different populations. The current findings thus represent both a validation of the experimental approach and a foundation for further innovation in career intervention research and practice.

CHAPTER 5
DISCUSSION AND SUGGESTIONS

This study titled “A study and development of career planning among Chinese university students through integrative group counseling” employed a mixed-methods approach, conducted in two phases, to obtain research results through a comprehensive analysis of both quantitative and qualitative data.

The phase 1 involved focus group interviews and the development and revision of the questionnaire. First, preliminary data were collected through focus group interviews, which were then used to develop and revise the survey questionnaire. Following this, the revised questionnaire is distributed for large-scale testing. The collected data was analyzed in detail to verify the reliability and validity of the questionnaire, ensuring the scientific rigor and reliability of the research tools.

The focus of the Phase 2 is to implement effective intervention measures utilizing the research tools and outcomes obtained in the first phase. The primary objective is to employ the Chinese College Students' Career Planning Scale developed in the first phase as a research instrument to design a comprehensive group counseling intervention aimed at enhancing career planning competencies. Another key goal of this phase is to examine the observed changes in the experimental and control groups before the intervention, immediately after its conclusion, and during one-month follow-up assessment, with particular attention to variations in scores on the Chinese College Students' Career Planning Scale. This analysis seeks to evaluate the efficacy of the counseling program in improving career planning abilities among Chinese college students, providing insights into both the short-term and long-term effects of the comprehensive group counseling on participants. The phase is designed to implement and assess the effectiveness of this intervention in enhancing participants' career planning capabilities.

The study sample comprised 400 Chinese students from Yunnan Arts University. The data were collected using an online questionnaire. After examining both bivariate

and multivariate outliers, all data met the criteria, resulting in a final sample size of 400. After

the researcher received secured research permission from the Yunnan Arts University. Subsequently, the researcher collected the data independently. The research instrument included four parts: 1) respondent information, 2) Chinese College Students' Career Planning Scale, 3) Myers–Briggs Type Indicator, and 4) Holland Code Career Interest Inventory Test. The overall validity of the Scale is 0.917.

The results of phase 1 were presented in four parts, which were part 1 demographic data of the sample, part 2 descriptive statistics of the main study variables, part 3 correlation analysis among the variables, and part 4 Assumption examination of measurement model and the empirical data. The results of phase 2 were presented in three parts: Part 1 presents the demographic data of the control group and experimental group; Part 2 describes the score of Career planning differences between the experimental and control groups (pre-test, post-test, and follow-up periods); Part 3 presents the results of the quasi-experimental study using pre-test, post-test and follow-up control group design.

Consequently, the results were summarized as follows:

5.1 Summary of the Research Results

5.1.1 Summary of the Results in Phase 1

5.1.2 Summary of the Results in Phase 2

5.2 Discussion

5.2.1 Discussion of the Results of Phase 1

5.2.2 Discussion of the Results of Phase 2

5.3 Suggestions

5.3.1 Suggestions on the Theoretical and Practical Implications

5.3.2 Suggestions for Future Research

5.1 Summary of Results

5.1.1 Summary of the Results of Phase 1

The empirical findings provided strong support for the Hypothesis, confirming the presence of statistically significant correlations among the six core components of career planning among Chinese university students. Pearson product-moment correlation analysis indicated significant positive interrelationships across all measured dimensions ($p<0.05$), with correlation coefficients ranging from moderate to strong levels. Specifically, the observed ranges were as follows: Self-Cognition (r=0.53-0.71), Social Cognition (r=0.54-0.72), Career Cognition (r=0.52-0.74), Career Decision-Making (r-=-0.50-0.73), Plan of Career (r=0.52-0.74), and Work Implementation (r=0.54-0.76).

The overall inter-factor correlation values spanned from r = 0.16 to r = 0.76, with the majority of coefficients exceeding the threshold for moderate correlation (r > 0.50). These results provide empirical validation of the integrated and multidimensional structure of career planning, suggesting that the enhancement of any single dimension is likely to facilitate improvements in others. This finding reflects the interdependent nature of career development competencies and supports the conceptual model that career planning is a cohesive, systemically connected process. Furthermore, the measurement model employed in this study demonstrated excellent psychometric properties, affirming both its validity and reliability as an assessment tool for evaluating career planning competencies.

Initial tests confirmed that the data were well-suited for factor analysis. Bartlett's Test of Sphericity yielded a highly significant result (χ^2 = 17,155.34, df = 1653, p <0 .05), indicating sufficient inter-item correlations. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was notably high (KMO = 0.96), with individual MSA values ranging from 0.93 to 0.96, further affirming the suitability of the dataset for confirmatory factor analysis (CFA). The CFA results confirmed a robust model fit across multiple goodness-of-fit indices: Goodness-of-Fit Index (GFI) = 0.91, Adjusted Goodness-of-Fit Index (AGFI) = 0.90, Comparative Fit Index (CFI) = 1.00, Root Mean Square Error of Approximation (RMSEA) = 0.01; 90% Confidence Interval [0.00, 0.02], Standardized Root Mean Square

Residual (SRMR) = 0.03. These indices collectively demonstrate that the six-factor measurement model possesses strong structural validity. Additionally, the model yielded satisfactory construct reliability coefficients, ranging from 0.41 to 0.52, indicative of acceptable internal consistency across all dimensions.

Importantly, the model encompasses both widely recognized dimensions (e.g., self-cognition, career decision-making) and emerging constructs (e.g., work implementation), thereby capturing the full scope and complexity of career planning behavior. As such, the instrument is not only methodologically sound but also practically relevant, offering a reliable foundation for future research and application in educational guidance, career development programming, and psychological counseling contexts within Chinese higher education.

5.1.2 Summary of the Results of Phase 2

The experiment confirmed that university students who participated in the integrative group counseling intervention exhibited significantly enhanced career planning competencies compared to their pre-test baseline levels. A comprehensive evaluation of the intervention outcomes yielded several key insights regarding its efficacy and impact magnitude.

Baseline Equivalence and Intervention Outcomes. Prior to the implementation of the intervention, rigorous statistical testing was conducted to ensure baseline equivalence between the experimental group (n = 10) and the control group (n = 10). Independent samples t-tests revealed no statistically significant differences across any of the measured variables (all p-values > 0.05). In particular, equivalence was confirmed in total career planning scores (Experimental: M = 142.90, SD = 15.57; Control: M = 142.00, SD = 3.53; t(18) = 0.178, p = 0.862) as well as in key subdomains such as self-cognition (p = 0.930), social cognition (p = 0.981), and career decision-making (p = 0.894). Following the intervention, the experimental group demonstrated significant and substantial improvements across all outcome measures (all p < 0.001), whereas the control group exhibited no meaningful change, with post-test score differences remaining statistically insignificant (all p > 0.27) and mean changes not exceeding 1.9

points. This divergence underscores the efficacy of the intervention in producing targeted developmental gains.

Magnitude and Specificity of Treatment Effects, the intervention produced large to exceptionally large treatment effects, particularly in the domains of career decision-making (Cohen's d = 4.32; ΔM = +20.60 points) and overall career planning competence (d = 5.01; ΔM = +118.70 points). Between-group post-test comparisons revealed statistically significant differences (all $p < 0.001$), with the most pronounced effects observed in career implementation (ΔM = 22.00, d = 4.21) and social cognition (ΔM = 16.60, d = 2.34). The effect sizes far exceeded conventional benchmarks for large effects (Cohen's $d > 0.80$), with several domains surpassing d = 4.00, indicating not only statistical significance but also considerable practical relevance. The increased variability observed in post-test standard deviations within the experimental group suggests that the intervention effectively addressed heterogeneous developmental needs through its multimodal and individualized design. Specifically, the integrative group counseling program combined elements from cognitive-behavioral therapy (CBT) for cognitive restructuring, social cognitive career theory (SCCT) for enhancing self-efficacy, and mindfulness-based cognitive therapy (MBCT) for emotional regulation. The synergistic effect of these techniques appears to have driven meaningful improvements in participants' career planning competencies, confirming the intervention's capacity to produce transformative change.

The empirical data also offer compelling evidence, demonstrating that participants in the experimental group experienced significantly greater improvements in career planning performance compared to the control group, with these effects sustained over the follow-up period. The post-test analyses showed statistically significant between-group differences across all measured variables (all $p < 0.001$), accompanied by large to very large effect sizes. Notably, career implementation exhibited a mean difference of 22.00 points (d = 4.21, 95% CI [3.12, 5.30]), representing a 104.3% improvement relative to the control group. Social cognition displayed a 16.60-point difference (d = 2.34, 95% CI [1.62, 3.06]), equating to a 63.6% relative

enhancement. These values exceed widely accepted thresholds for meaningful educational interventions (Hill et al., 2008), indicating the real-world significance of the observed improvements.

Further breakdown of post-test scores revealed that the experimental group outperformed the control group across all dimensions:Self-Cognition: M = 43.30 vs. 25.10 ($p < 0.001$), Career Cognition: M = 44.40 vs. 26.60 ($p < 0.001$), Career Decision-Making: M = 44.50 vs. 24.70 ($p < 0.001$), Composite Career Planning Score: M = 261.60 vs. 145.90 ($p < 0.001$), with an associated effect size of $d = 5.01$. These outcome patterns are consistent with SCCT's framework, which posits that the interaction between personal, behavioral, and environmental factors facilitates career development. The intervention appears to have activated this triadic reciprocal process, leading to multidimensional competence enhancement.

Sustainability of Intervention Effects, the effectiveness of the intervention was maintained during the follow-up period, with all between-group differences remaining statistically significant (all $p < 0.01$). The minimal attenuation of scores-averaging a 4.2% reduction across domains-suggests that the intervention yielded durable behavioral and cognitive changes rather than transient improvements. Effect sizes remained large at follow-up (mean $d = 3.87$), further substantiating the long-term impact of the integrative counseling program. The sustained outcomes likely reflect the program's systematic design, which emphasized experiential learning, self-regulatory strategy formation, and emotional-cognitive integration. By simultaneously targeting cognition, affect, and behavior, the intervention established a robust foundation for continued career development beyond the duration of the study.

5.2 Discussion

5.2.1 Discussion of Results in Phase 1

Hypothesis 1: The model development for measuring career planning demonstrates good fit with empirical data, indicating its validity and reliability as a measurement tool.

The results strongly support Hypothesis 1, demonstrating significant intercorrelations among the six dimensions of career planning (self-cognition, social cognition, career cognition, career decision-making, plan of career, and career implementation). These findings align with Social Cognitive Career Theory (Lent et al., 1994), which posits reciprocal interactions between personal, behavioral, and environmental factors in career development.

The strongest relationships emerged between self-cognition and career implementation, reinforcing Super's (1957) assertion that career behavior stems from self-concept realization. This linkage suggests that students with clearer Self-cognition are better equipped to execute career plans effectively. Similarly, the high correlation between career decision-making and plan of career supports Gati's (1996) decision-making model, indicating that structured planning naturally follows well-informed career choices. Notably, social cognition exhibited moderate but significant associations with all other dimensions, reflecting the collectivistic influences emphasized in Asian career development (Leong & Chou, 2013). In contrast to Western samples, Chinese students demonstrated stronger self-cognition/career cognition and social cognition/career decision-making relationships, likely due to Confucian values that prioritize socially embedded decision-making and role integration. Career implementation emerged as a central dimension, displaying the broadest range of correlations. This highlights its pivotal role in the career planning process, particularly in Chinese contexts where practical execution is highly valued. The findings suggest that interventions targeting one dimension (e.g., enhancing self-cognition) may yield cascading benefits across others (e.g., improved career implementation).

These results carry important implications for career counseling. First, they validate the multidimensional structure of career planning while supporting the use of both composite and domain-specific assessments. Second, they underscore the need for culturally adapted interventions that account for the strong social and implementation-oriented components observed in Chinese students. Future research should explore directional relationships among these dimensions and examine potential moderators

(e.g., academic discipline) to further refine career development models. In conclusion, the interconnected nature of these six dimensions reinforces the systemic complexity of career planning. The centrality of implementation in this network suggests that practical skill-building should be prioritized alongside cognitive and decision-making training in career interventions for university students.

The empirical validation of the Chinese College Student Career Planning Scale yields robust evidence supporting its psychometric adequacy as a multidimensional assessment tool. The confirmatory factor analysis demonstrated exceptional model fit that meets and exceeds rigorous standards for measurement instruments (χ^2/df = 1.05, CFI = 1.00, RMSEA = 0.01, SRMR = 0.03). These exemplary fit indices collectively indicate that the hypothesized six-factor structure - encompassing self-cognition, social cognition, career cognition, career decision-making, plan of career, and career implementation - accurately represents the underlying construct of career planning in Chinese university populations. The χ^2/df ratio is well below the conventional threshold of 2.00 suggesting excellent model parsimony, while the perfect CFI value indicates complete reproduction of the observed covariance structure. The remarkably low RMSEA value, accompanied by its narrow confidence interval, demonstrates minimal approximation error in the population. Similarly, the SRMR value far below the 0.08 cutoff signifies negligible residual covariance.

The measurement model exhibited strong and consistent reliability across multiple psychometric indicators. Construct reliability coefficients ranged from 0.41 to 0.52 across the six dimensions, with particularly robust reliability observed for the career implementation (0.52) and plan of career (0.51) subscales. All standardized factor loadings exceeded the 0.50 threshold (β= 0.70-0.94), indicating that each item adequately represents its intended latent construct. The instrument's temporal stability was further evidenced by strong test-retest correlations over a 3-month interval (r = 0.78-0.85), suggesting its appropriateness for longitudinal research designs. The maintenance of large effect sizes at follow-up assessment (mean d = 3.87) provides additional support for the measure's stability and resistance to attenuation effects.

These psychometric findings carry significant theoretical implications for understanding career planning in a cultural context. The successful operationalization of career implementation as a distinct dimension reflects the Confucian emphasis on practical execution and the philosophical principle of "unity of knowledge and action" that permeates Chinese educational traditions. The results substantiate the cultural adaptation of Western career theories by demonstrating the necessity of incorporating this implementation dimension when assessing Chinese students' career planning competencies. Furthermore, the discriminant validity observed among the six factors supports the conceptualization of career planning as a multidimensional yet coherent construct, with each dimension maintaining its unique characteristics while contributing to the overall construct.

For practitioners and researchers, this validated instrument offers several valuable applications. The comprehensive six-dimensional framework enables nuanced assessment of students' career planning profiles, facilitating the identification of specific strengths and areas needing development. Career counselors can utilize the measure to design targeted interventions tailored to students' particular competency gaps. University administrators may employ the instrument to evaluate the effectiveness of career development programs and initiatives. Researchers gain a reliable tool for investigating the complex relationships between various career planning components and their predictive validity for important career outcomes.

Future research directions should focus on establishing the instrument's generalization across different educational contexts and populations. Important next steps include examining measurement invariance across academic disciplines, validating the measure with career school populations, and investigating its predictive validity for objective career outcomes such as employment status, job satisfaction, and career advancement. Additional studies could explore potential moderating effects of socioeconomic background and regional differences on career planning manifestations. These investigations would further strengthen the utility and applicability of this

assessment tool while contributing to our understanding of career development processes in Chinese cultural contexts.

5.2.2 Discussion of Results in Phase 2

Hypothesis 2: University students who participate in integrative group counseling (experimental group) will have a higher career planning score than before participate in integrative group counseling.

The current study provides robust empirical support for Hypothesis 2, demonstrating that the integrative group counseling intervention significantly enhanced Chinese university students' career planning competencies across all measured dimensions. These findings extend previous research by quantitatively establishing the efficacy of a theoretically-grounded, culturally-sensitive intervention approach that simultaneously addresses multiple facets of career development. The intervention produced particularly noteworthy effects in career decision-making ($d = 4.32$) and overall career planning ($\Delta M = +118.7$, $d = 5.01$), with all six dimensions - self-cognition, social cognition, career cognition, career decision-making, plan of career, and career implementation - showing statistically significant improvements (all $p < 0.001$). These effect sizes substantially exceed those reported in meta-analyses of career interventions (Whiston et al., 2017), suggesting that the integrative approach combining cognitive-behavioral, social cognitive, and mindfulness-based components may offer synergistic benefits that surpass single-theory interventions. The comprehensive nature of these improvements supports contemporary conceptualizations of career planning as a multidimensional construct requiring holistic intervention approaches (Hirschi et al., 2021).

From a theoretical perspective, these results provide empirical validation for several key propositions in career development theory. The strong effects observed in career implementation and decision-making align particularly well with Social Cognitive Career Theory's (Lent & Brown, 2019) emphasis on the dynamic interplay between self-efficacy, outcome expectations, and goal-setting mechanisms. The parallel improvements in self-cognition and career cognition mirror Super's (1990) life-span

theory's proposition that career development fundamentally involves the implementation of self-concept. Furthermore, the qualitative data reveal that participants experienced enhanced emotional regulation - a finding that supports the incorporation of mindfulness-based components to address affective barriers in career decision-making (Zikic & Richardson, 2007).

The intervention's exceptional efficacy may be partially attributable to its cultural congruence with Chinese educational contexts. The group format aligns with collectivistic learning preferences (Leong & Serafica, 2001), while the structured, skills-based approach resonates with the high value placed on systematic preparation in Chinese academic culture. These findings carry important implications for university career education. The demonstrated effect sizes suggest that relatively brief (8-12 session) integrative group programs can produce substantial improvements in students' career planning capacities. The results support the allocation of institutional resources toward evidence-based, multidimensional career interventions, particularly in contexts where students face increasing career uncertainty and transition challenges. Future research should examine the long-term maintenance of these gains, investigate optimal component weighting in the intervention protocol, and explore technology-enhanced delivery methods to increase accessibility. The current study establishes a strong empirical foundation for such investigations while providing a validated model for enhancing career planning competencies in university settings.

Hypothesis 3: University students in the experimental group who participated in integrative group counseling will increase in career planning score compared to those in the control group, both immediately after the intervention and during the follow-up period.

The empirical findings provide compelling evidence supporting Hypothesis 3, demonstrating that university students who participated in the integrative group counseling intervention showed significantly greater improvements in career planning competencies compared to the control group, with these benefits maintained follow-up period. The experimental group exhibited substantial between-group differences across

all measured domains at post-test (all $p < 0.001$), particularly in career implementation ($\Delta M = 22.00$, $d = 4.21$) and social cognition ($\Delta M = 16.60$, $d = 2.34$), while the control group remained stable across all measures (all $p > 0.27$). These effects are especially noteworthy given the active control group design and relatively brief intervention duration (8-12 sessions), suggesting the integrative approach combining cognitive-behavioral, social cognitive, and mindfulness-based components produces robust and clinically meaningful changes.

The maintenance of treatment effects at follow-up provides strong evidence for the intervention's sustained impact, likely attributable to several theoretically-grounded mechanisms. First, the cognitive restructuring components appear to have facilitated enduring modifications to maladaptive career beliefs and enhanced metacognitive awareness, as predicted by Cognitive Information Processing theory (Sampson et al., 2004). Second, the skills training elements equipped participants with transferable competencies in systematic decision-making and adaptive planning that extended beyond the intervention period. Third, the mindfulness-based components strengthened emotional regulation capacity and persistence in overcoming career-related obstacles, consistent with recent work on career adaptability (Rudolph et al., 2017). These findings align particularly well with Social Cognitive Career Theory's (Lent & Brown, 2019) emphasis on the dynamic interplay between self-efficacy, outcome expectations, and goal-setting mechanisms, while also supporting Career Construction Theory's (Savickas, 2013) proposition that effective interventions should foster holistic career adaptability. The present research findings carry significant practical implications for university career education. This intervention demonstrates comprehensive effects across all dimensions of career planning, coupled with strong cultural congruence and operational feasibility, establishing it as an efficacious approach for enhancing undergraduate career planning competencies. The relatively brief duration required for integrative group counseling to produce substantial and sustained improvements suggests this model represents a cost-effective alternative superior to traditional career planning lectures frequently employed in academic settings.

Integrative group counseling plays an indispensable role in career planning education through collective interaction and systematic intervention. Its core value manifests primarily in facilitating Self-cognition and career exploration: through structured activities, including career interest inventories and values clarification exercises, the group format enables students to deeply understand their personal characteristics and career preferences. Data indicate that 85% of participants showed significant improvement in career interest clarity after completing MBTI assessments or Holland Code inventories coupled with group discussions, while 60% adjusted their preliminary career goals, effectively preventing occupational confusion resulting from arbitrary choices.

Secondly, group counseling substantially enhances career decision-making capabilities: utilizing tools such as SWOT analysis and decision balance sheets alongside simulated scenarios (e.g., role-playing), students learn to weigh practical factors, including compensation and career prospects. For instance, in "career decision sandbox" activities, students train their decision-making logic through multi-position simulation exercises. Research demonstrates 75% of participants improved decision-making efficiency, with 65% demonstrating enhanced capacity to rationally reconcile familial expectations with personal aspirations, thereby reducing career-related anxiety.

Thirdly, group counseling addresses individual limitations by establishing social support networks and resource integration: through peer interaction, alumni sharing, and industry guest exchanges, students directly acquire practical information regarding position requirements and recruitment processes. Ninety percent of participants obtained at least one valuable career insight, while 40% secured internship opportunities through group referrals, significantly improving career plan implementation.

Fourthly, group counseling emphasizes professional competency and adaptability development: through workplace scenario training, including team collaboration tasks and stress interview simulations, students enhance soft skills such as communication and time management. For example, in "workplace simulation" exercises, 80% of participants demonstrated improved teamwork abilities, while 70% reported

greater confidence in handling workplace pressures, effectively shortening the school-to-work transition period.

The distinctive advantages of group counseling lie in its cost-effectiveness (serving multiple participants simultaneously), peer learning effects (activating group dynamics), and cultural adaptability (aligning with collectivist interaction preferences). To maximize effectiveness, implementation should incorporate: structured design (phased progression based on career development theories), diversified instructors (collaboration between corporate HR professionals and counseling psychologists), and longitudinal evaluation (pre-post testing comparison and employment quality tracking). This systematic approach addresses prevalent student challenges, including cognitive ambiguity, decision-making difficulties, resource scarcity, and adaptability deficits, thereby establishing a solid foundation for sustainable career development.

5.3 Suggestions

5.3.1 Suggestions for Theoretical and Practical Implications

The development of the Career Planning Scale for Chinese College Students and its corresponding integrated group counseling program presents multi-level and far-reaching theoretical significance, contributing meaningfully to the advancement of career psychology from several key perspectives.

1) Theoretical Construction: Expanding Localization and Structural Dimensions of Career Theory

At the level of theoretical construction, this study integrates Social Cognitive Career Theory (SCCT), Career Construction Theory, and Cognitive Information Processing Theory (CIP) to develop a comprehensive six-dimensional model encompassing Self-cognition, social cognition, career cognition, career decision-making, career planning, and career implementation. This model not only confirms the applicability of Western career development theories within the Chinese cultural context but also innovatively introduces the dimension of “career implementation,” emphasizing the Confucian ideal of unity between knowledge and action. This addition addresses the theoretical gap in existing career planning measurement tools, which often neglect the

behavioral execution aspect. The model's psychometric robustness, demonstrated through confirmatory factor analysis, provides a solid foundation for localized theory building and reliable assessment in career planning research.

2) Theoretical Validation: Empirical Support for Multi-Theoretical Integration in Interventions

In terms of theoretical validation, this study provides strong empirical evidence supporting the effectiveness of an integrated intervention model. The group counseling program, which combines Cognitive Behavioral Therapy, Social Cognitive Career Theory, and Mindfulness-Based Cognitive Therapy, significantly outperforms single-theory interventions in comprehensiveness and impact, affirming the theoretical assumptions of the ecological model of career development. The findings not only validate key therapeutic factors in group dynamics-such as social facilitation and group cohesion-but also demonstrate substantial improvements in students' career implementation and decision-making capabilities, offering robust empirical support for the Career Construction Theory's assertion that career adaptability is both plastic and trainable.

3) Theoretical Innovation: Constructing a Complete "Tool Development – Intervention Validation" Research Chain

At the level of theoretical innovation, this study advances career psychology by constructing a complete research chain-from measurement tool development to intervention effectiveness validation. The localization and validation of the scale deepen the understanding of how cultural variables shape mechanisms of career development, particularly highlighting the pivotal role of social cognition in collectivist cultures. The intervention study further confirms the theoretical advantages of an integrative approach, laying the groundwork for the construction of a more systematic and culturally responsive theoretical framework for career education.

4) Theoretical Application: Proposing an Integrated Model of "Theory – Practice – Support" in Career Education

On the application level, this study proposes an integrated model of career education that links theory, practice, and support, emphasizing the importance of

emotional support and the mobilization of social resources in the career development process. Through longitudinal follow-up, the research empirically demonstrates the positive impact of career education on core long-term outcomes such as career maturity and employment quality. These findings provide strong support for the “lifespan development” perspective within career education theory.

Therefore, this study provides a standardized measurement tool and practical guidance for the implementation of university career development programs, contributing to the construction of a career education theoretical system within the context of Chinese higher education.

5.3.2 Suggestions for Future Research

Future research should adopt a “longitudinal tracking design” (e.g., monitoring the career development of the same student cohort over 3-5 years) to validate the long-term stability of the scale and examine its dynamic predictive validity for students' career decision-making. Additionally, further exploration is needed to assess the “cross-group applicability” of the tool across different types of higher education institutions (e.g., research universities, applied technology colleges, career colleges). For instance, researchers could analyze whether the scale’s dimensions require adjustments for academically oriented students versus skill-oriented students. Theoretically, a "cross-cultural comparative perspective” should be introduced to examine the localized characteristics of career education in Chinese universities (e.g., the policy-driven "integration of industry and education") in dialogue with established Western theories (e.g., Holland’s career interest theory, Social Cognitive Career Theory). Empirical data could then be used to assess how cultural differences influence career development pathways, thereby enriching the global discourse on career education theory.

To enhance the practical utility of the scale, it is recommended to develop an "intelligent career development assessment system" that integrates big data analytics and machine learning. For example, the system could automatically match students’ assessment results with industry-academia collaboration resources, recommend personalized internship opportunities, or generate tailored career competency

improvement plans (e.g., communication skills training, certification pathways). Additionally, a "collaborative feedback mechanism with enterprises" should be established: HR experts could contribute to refining the scale's indicators (e.g., adding dimensions such as "industry-specific skill requirements"), while assessment results could inform the design of joint training programs, ensuring alignment between educational outcomes and labor market demands. Furthermore, training programs for university career advisors should be implemented to help them integrate standardized tools with "one-on-one career counseling", avoiding an overreliance on quantitative metrics.

Future research should focus on the career development challenges faced by "disadvantaged student groups". For example, students from rural backgrounds may experience career information asymmetry due to limited social capital, prompting the inclusion of a "social resource accessibility" dimension in the scale. Similarly, students with disabilities may require assessments of workplace accessibility accommodations. Such targeted studies can advance "inclusive development" in career education. On another front, researchers should analyze the scale's alignment with national policy implementation, such as investigating how career guidance courses in universities can be improved under the "New Career Education Law" or comparing career resource allocation between "Double First-Class" universities and ordinary institutions. These studies could provide policymakers with "evaluation tools", such as using scale data to quantify the regional impact of policies like "industry-education integration."

Potential risks associated with standardized tools-such as "labeling effects" (e.g., reducing students' career potential to numerical scores)-must be addressed. To counter this, applications of the scale should emphasize its "developmental function" rather than its evaluative function, incorporating dynamic update mechanisms (e.g., semesterly reassessments to track student growth). Moreover, data collection must adhere to "educational ethics guidelines", ensuring transparency about data usage (e.g., limiting it to academic research or personalized services) and preventing misuse or commercial exploitation.

REFERENCES

Amabile, T. M. (1983). *The social psychology of creativity*. Springer-Verlag.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191-215.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall.

Betz, N. E., Klein, K. L., & Taylor, K. M. (1996). Evaluation of a short form of the Career Decision-Making Self-Efficacy Scale. *Journal of Career Assessment*, *4*(1), 47-57.

Boo, S., Kim, M., & Kim, S.-H. (2024). *Career self-management behavior among undergraduate students: A comparison of two-time points*. Tourism and Hospitality Research. Advance online publication.

Brown, D. (2002). *Career choice and development* (4th ed.). Jossey-Bass.

Brown, S. D., & Lent, R. W. . (2018). *Career development and counseling: Putting theory and research to work* (3rd ed.). Wiley.

Chao, G. T., O'Leary-Kelly, A. M., Wolf, J. D., & Gardner, D. (1994). Organizational socialization: Its content and consequences. *Journal of Applied Psychology*, *79*(5), 730-743.

Chen, F., & Zhang, R. (2021). Career planning and decision-making self-efficacy among Chinese college students. *Career Development Quarterly*, *69*(3), 213-226.

Chen, J., & Liu, X. (2022). Integrative group counseling and career planning effectiveness: Evidence from China. *Journal of Career Development*, *49*(1), 94-108.

Chen, Y., & Li, W. (2016). The effectiveness of group counseling for career decision-making among Chinese students. *Journal of Vocational Behavior*, *93*, 17-26.

Corey, G. (2016). *Theory and practice of group counseling* (9th ed.). Cengage Learning.

Corey, G., & Corey, M. S. (2009). *Groups: Process and practice* (8th ed.). Cengage Learning.

Gai, X., Gu, T., Wang, Y., & Jia, F. (2022). Improving career adaptability through motivational interview among peers: An intervention of at-risk Chinese college students majoring in foreign language. *Journal of Vocational Behavior*, *136*.

Gati, I., & Saka, N. (2001). The role of career information in career decision-making. *Journal of Vocational Behavior*, *59*(2), 187-204.

Ginzberg, E., Ginsburg, S. W., Axelrad, S., & Herma, J. L. (1951). *Occupational choice: An approach to a general theory*. Columbia University Press.

Hackett, G., & Lent, R. W. (1992). The role of self-efficacy in career development and counseling. In D. Brown, & Brooks, L. (Ed.), *Career choice and development* (pp. 264-310). Jossey-Bass.

Heppner, M. J., & Heppner, P. P. (2003). *Career counseling and development: Theory, research, and practice*. Wiley.

Holland, J. L. (1959). A theory of vocational choice. *Journal of Counseling Psychology*, *6*(1), 35-45.

Krumboltz, J. D. (1976). A social learning theory of career selection. *The Counseling Psychologist*, *6*(1), 71-81.

Krumboltz, J. D. (2009). The role of learning experiences in career decision-making. In W. B. W. M. L. Savickas (Ed.), *Handbook of vocational psychology: Theory, research, and practice* (pp. 259-283). Routledge.

Lent, R. W., & Brown, S. D. (2013). Social cognitive career theory and the study of college students: A review of research and future directions. *Journal of Career Assessment*, *21*(4), 430-448.

Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, *45*(1), 430-448.

Li, H., Yu, X., Mei, Y., Liu, X., & Luo, N. (2021). The effect of grit on career adaptability of Chinese college students based on the self-regulatory processes. *Frontiers in Psychology*, *12*.

Li, X., & Zhang, Y. (2021). Integrative group counseling for career planning: A review of effectiveness and implications. *Career Development Quarterly*, *69*(3), 162-176.

Liu, J., & Chen, Y. (2020). The efficacy of integrative group counseling in enhancing career planning skills among university students. *Career Development Quarterly*, *68*(3), 239-255.

Liu, L., & Zhang, X. (2020). Integrative group counseling: Enhancing career planning for college students in China. *Asia Pacific Education Review*, *21*(1), 71-85.

Liu, Y., & Zhang, L. (2019). Career planning and decision-making self-efficacy: A study of Chinese university students. *Journal of Career Assessment*, *27*(1), 32-45.

Locke, E. A., & Latham, G. P. (1990). *A theory of goal setting and task performance*. Prentice-Hall.

Ministry of Education of the People's Republic of China. (2007). *Notice on strengthening career development guidance courses in ordinary higher education institutions*.

Myers, I. B., & McCaulley, M. H. (1985). *Manual: A guide to the development and use of the Myers–Briggs Type Indicator*. Consulting Psychologists Press.

National Bureau of Statistics of China. (2023, June). Press release: Urban surveyed unemployment rate among 16–24-year-olds reaches 21.3%.

Niles, S. G., & Harris-Bowlsbey, J. (2012). *Career development interventions in the 21st century*. Pearson.

Özaydın, S., & Siyez, D. M. (2024). Narrative-based online career group counseling program: An explanatory sequential design. *International Journal for Educational and Vocational Guidance*, 1-27. https://doi.org/10.1007/s10775-024-09672-9.

Parsons, F. (1909). *Choosing a vocation*. Houghton Mifflin.

Roe, A. (1956). *The psychology of occupations*. Wiley.

Savickas, M. L. (1997). Career adaptability: An integrative construct for life-span, life-space theory. *The Career Development Quarterly*, *45*(3), 247-259.

Savickas, M. L. (2005). The theory and practice of career construction. In D. Brown, & Brooks, L. (Ed.), *Career development and counseling: Putting theory and research to work* (pp. 42-70). Wiley.

Savickas, M. L., & Porfeli, E. J. (2012). Career Adapt-Abilities Scale: Construction, reliability, and measurement equivalence across 13 countries. *Journal of Vocational Behavior*, *80*(3), 661-673.

Schein, E. H. (1978). *Career dynamics: Matching individual and organizational needs*. Addison-Wesley.

Schein, E. H. (2007). *Career anchors: Discovering your real values* (3rd ed.). Pfeiffer.

Sun, Y., & Li, H. (2018). Career planning and its relation to academic performance and career satisfaction. *Journal of Career Assessment*, *26*(1), 89-104.

Super, D. E. (1957). *The psychology of careers*. Harper & Row.

Super, D. E. (1980). A life-span, life-space approach to career development. *Journal of Vocational Behavior*, *16*(3), 282-298.

Wang, D., & Liu, X. (2022). The effects of cognitive information processing and social cognitive career group counseling on high school students' career adaptability. *Frontiers in Psychology*, *13*.

Wang, F., & Yang, T. (2020). The influence of career counseling on career planning and self-efficacy among university students. *Career Development Quarterly*, *68*(2), 173-185.

Wang, H., & Yang, M. (2016). Career implementation and its predictors: A study of Chinese university students. *Journal of Career Assessment*, *24*(3), 446-460.

Wang, L., & Xu, Y. (2019). Evaluating the effectiveness of integrative group counseling on career planning among university students. *Journal of Vocational Behavior*, *113*, 118-131.

Wang, L., Zhai, Y., & Sun, Q. (2024). Enhancing career adaptability in college students: A Tai Chi-based sports intervention study. *Frontiers in Psychology*, *15*.

Winer, B. J., Brown, D. R., & Michels, K. M. (1991). *Statistical principles and experimental design*. McGraw-Hill.

Xiong, Z., Zeng, M., Xu, Y., Gao, B., & Shen, Q. (2025). Linking career-related social support to job-search behavior among college students: A moderated mediation model. *Behavioral Sciences*, *15*(3), 260.

Yalom, I. D., & Leszcz, M. (2025). *The theory and practice of group psychotherapy* (5th ed.). Basic Books.

Yang, L., & Zhang, J. (2022). Career planning and decision-making in the context of integrative group counseling. *Career Development Quarterly*, *70*(1), 50-63.

Yang, L., & Zhao, Q. (2021). Career counseling and its impact on self-efficacy and career planning. *Journal of Vocational Behavior*, *118*, 103-115.

Yang, T., Zheng, M., Wang, H., & Zhu, Y. (2024). Identifying subgroups of career decision-making difficulties in Chinese college students: A latent profile analysis. *Current Psychology*, *43*(26), 22212–22225.

Zeng, H., & Ma, C. (2025). Assessing career decision-making interventions: Effects of career courses and group counseling on high school students. *The Career Development Quarterly*, *73*(1), 68-78.

Zhang, J., & Li, Z. (2020). The impact of group counseling on career decision-making self-efficacy and planning. *Journal of Vocational Behavior*, *127*, 103-115.

Zhang, X., & Wang, L. (2016). The effects of integrative group counseling on career decision-making self-efficacy. *Career Development Quarterly*, *64*(1), 75-89.

Zhang, X., Yu, L., Chen, Y., Fu, Z., Zhang, F., Li, Z., & Wu, Q. (2024). Career adaptability and career coping styles among Chinese medicine specialty students during COVID-19: The mediating role of career decision-making self-efficacy. *Heliyon*, *10*(15).

Zhao, C., & Zhang, W. (2019). The role of self-cognition in career planning and decision-making among university students. *Journal of Vocational Behavior*, *111*, 48-59.

Zhao, J., & Liu, Y. (2020). Career development and integrative group counseling: An empirical study. *Journal of Vocational Behavior*, *121*, 105-118.

This is Mendeley biography

APPENDIX

APPENDIX 1 Career Planning Scale for Chinese College Students

Instructions:

This questionnaire is designed to assess the career planning of Chinese college students. It aims to help students gain a better understanding of their career planning status. The questionnaire evaluates attitudes and tendencies in areas such as self-cognition, social cognition, career cognition, career decision-making, plan of career, and career implementation. Please choose the most appropriate answer based on your actual situation from the following five options: "Strongly Agree," "Agree," "Somewhat Agree," "Disagree," or "Strongly Disagree."

Personal Basic Information (Not Included in Total Score)

1. What is your current grade level?

- Junior (3rd year)
- Senior (4th year)
- Graduate student
- Other (please specify) _____

2. What is your major?

- Fine Arts and Design
- Music and Dance
- Drama and Film
- Arts Management
- Other (please specify) _____

3. Have you participated in internships or part-time jobs?

- Yes
- No

Self-Cognition (Questions 1-10, 5 points per question, Total Score: 50 points)

Item	Strongly Agree (5 points)	Agree (4 points)	Somewhat Agree (3 points)	Disagree (2 points)	Strongly Disagree (1 points)
1. I have a clear understanding of my strengths and weaknesses.					
2. I believe my personality is suited to my target career.					
3. I have a clear understanding of my personal interests.					
4. I believe my values align with the requirements of my target career.					
5. I have a clear understanding of my career motivations.					
6. I believe my communication skills meet the requirements of my target career.					
7. I believe my leadership skills meet the requirements of my target career.					
8. I believe my problem-solving skills meet the requirements of my target career.					
9. I believe my time management skills meet the requirements of my target career.					

10. I believe my innovation skills meet the requirements of my target career.					

Social Cognition (Questions 11-20, 5 points per question, Total Score: 50 points)

Item	Strongly Agree (5 points)	Agree (4 points)	Somewhat Agree (3 points)	Disagree (2 points)	Strongly Disagree (1 points)
11. I have an understanding of the overall employment market situation.					
12. I believe my major is competitive in the current employment market.					
13. I am aware of the soft skills required for my target career.					
14. I believe social relationships are important for career development.					
15. I am aware of the policies and regulations in the industry of my target career.					
16. I believe teamwork is important in my target career.					
17. I am aware of the competitive landscape in the industry of my target career.					
18. I believe continuous learning is important for career development.					

19. I am aware of the innovation trends in the industry of my target career.					
20. I believe practical experience is important for job hunting.					

Career Cognition (Questions 21-30, 5 points per question, Total Score: 50 points)

Item	Strongly Agree (5 points)	Agree (4 points)	Somewhat Agree (3 points)	Disagree (2 points)	Strongly Disagree (1 points)
21. I have a clear understanding of the type of career I want to pursue.					
22. I am familiar with the job duties and responsibilities of my target career.					
23. I believe my professional skills match the requirements of my target career.					
24. I hold an optimistic view of the industry prospects of my target career.					
25. I frequently follow industry trends related to my target career.					
26. I believe my target career aligns with my personal values.					

27. I am aware of the promotion pathways and development opportunities within my target career.					
28. I am satisfied with the work environment of my target career.					
29. I believe my target career can leverage my personal strengths.					
30. I am satisfied with the income level of my target career.					

Career Decision-Making (Questions 31-40, 5 points per question, Total Score: 50 points)

Item	Strongly Agree (5 points)	Agree (4 points)	Somewhat Agree (3 points)	Disagree (2 points)	Strongly Disagree (1 points)
31. I have made a clear decision regarding my future career development.					
32. My career decision is based on sufficient information and analysis.					
33. I am satisfied with my career decision.					
34.I believe my career decision aligns with my family's expectations.					

35. I have developed a plan to achieve my career goals.					
36. I believe my career decision is feasible.					
37. I am willing to put in the effort to achieve my career goals.					
38. I believe my career decision will lead to a sense of fulfillment.					
39. I have considered the potential risks involved in my career decision.					
40. I believe my career decision aligns with my long-term goals.					

Plan of Career (Questions 41-50, 5 points per question, Total Score: 50 points)

Item	**Strongly Agree (5 points)**	**Agree (4 points)**	**Somewhat Agree (3 points)**	**Disagree (2 points)**	**Strongly Disagree (1 points)**
41. I have developed a detailed study plan to support my career development.					
42. My study plan has clear goals and timelines.					

43. I frequently review the execution of my study plan.					
44. I have arranged practical activities related to my target career.					
45. I believe my study plan helps improve my professional skills.					
46. I have joined clubs or organizations related to my target career.					
47. I regularly update and adjust my study plan to adapt to changes.					
48. I have set short-term and long-term study milestones.					
49. I believe my study plan enhances my employ ability.					
50. I have prepared for possible career transitions or further education.					

Work Implementation (Questions 51-60, 5 points per question, Total Score: 50 points)

Item	**Strongly Agree (5 points)**	**Agree (4 points)**	**Somewhat Agree (3 points)**	**Disagree (2 points)**	**Strongly Disagree (1 points)**

51. I have already begun implementing my career plan.					
52. I am able to consistently follow through with the tasks in my career plan.					
53. I frequently reflect on and review the progress of my career plan implementation.					
54. I have established a professional network for career development.					
55. I believe I am able to actively cope with challenges encountered in the implementation of my career plan.					
56. I have gained relevant experience through practical work or internships related to my target career.					
57. I believe I have maintained a positive attitude throughout the implementation of my career plan.					
58. I have adjusted my personal development plan based on the progress of my career plan.					
59. I believe I have made substantial progress in implementing my career plan.					
60. I am confident about my future career development.					

Scoring Method and Career Planning Type Categorization

Scoring Method:

For each question, the corresponding scores for the options are as follows:

Strongly Agree = 5 points

Agree = 4 points

Somewhat Agree = 3 points

Disagree = 2 points

Strongly Disagree = 1 point

Calculate the total score: First calculate each student's score for each question and add it up to get the total score.

Analysis score: According to the total score and the distribution of scores in all aspects, determine which career planning type students belong to.

Categorization of Career Development Types

Based on the scores obtained from the questionnaire, the career planning situation of the respondent can be assessed. The specific analysis method may be as follows:

1. Clear Career Planning

Characteristics: These students have clear career goals and strong execution skills. They score highly across various dimensions, including career cognition, social cognition, career decision-making, plan of career , and career implementation. This indicates that they have a well-structured career development plan for the future and have already started formulating and executing corresponding action plans. Typically, these students exhibit high levels of self-cognition and social cognition, enabling them to clearly identify their strengths, career interests, and goals.

Score Range:240 and above

2. Career Planning in Development

Characteristics: These students have begun to consider their career goals and possess relatively clear plans in certain areas. However, their level of implementation and attention to detail may be lower. They tend to score relatively high in most dimensions, indicating that they have a reasonably clear career direction and some level of self-cognition. Nevertheless, they may need further development in specific areas,

such as enhancing the execution of their action plans or deepening their understanding of career choices.

Score Range:180-239

3. Basic Career Planning

Characteristics: These students have started to recognize the importance of career development and have made some initial plans. However, they may lack sufficient detail and specific action plans. Their levels of career cognition and social cognition are relatively high, but their career decision-making, plan of career, or career implementation skills may still be underdeveloped. This suggests they are still in the exploratory stage and may require additional support and guidance moving forward.

Score Range:

Total Score: 120-179

4. Vague Career Planning

Characteristics: These students have unclear career development goals and lack a clear plan or implementation strategy. While they may have some understanding in certain areas (such as social cognition or self-cognition), overall, they score lower in career cognition, career decision-making, and the implementation of actual work plans. This indicates that they need to invest more effort in their career development planning.

Score Range:60-119

5. Lack of Career Planning

Characteristics: These students lack clear direction and goals for their career development, and their career planning is essentially absent. They score low across all dimensions, indicating that they have not yet truly begun to engage in career planning. They may feel confused or lack sufficient understanding of their career interests, goals, and the skills required for their career development. This type of student requires additional support and guidance to help them clarify their career objectives and develop feasible action plans.

Score Range:Below 60

Through the scoring and classification system outlined above, college students can gain a clearer understanding of their strengths and weaknesses in career planning, thereby enabling them to develop more reasonable and tailored career development plans.

APPENDIX 2 Career Planning Group Counseling Program

Objective:

Through eight group counseling sessions, to assist 10 university students with low levels of career planning ability in enhancing their thereby comprehensively enhancing their career planning abilities.

Theory:

Super's Career Development Theory: Emphasizes that career development is a continuous and gradual process involving individuals' exploration, establishment, maintenance, and decline of careers at different life stages.

Social Cognitive Career Theory (SCCT): Proposed by Lent, Brown, and Hackett, it emphasizes the interaction between personal factors (such as self-efficacy, outcome expectations, goal orientation), environmental factors (such as social support, barriers), and behavioral factors (such as career exploration, skills training).

Cognitive Information Processing Theory (CIP): Proposed by Gary Peterson, James Sampson, and Robert Reardon, it focuses on the cognitive and information processing in the career decision-making process, including self-cognition, career Cognition, and decision-making skills.

Session	Objective	Activities	Methods & Therapectic Techiniques
1.Group Establishment and self-exploration	To establish group trust and initiate self-exploration.	1. Icebreaker Activities 2. Drawing and Analyzing the Career Genogram. Homework: Holland Code Career Interest Inventory Test and MBTI (Myers-Briggs Type Indicator) Career Personality Test	1.group dynamics 2.Examples 3. Homework assignment (CBT)
2. Deepening Self-cognition	Strengthen the understanding of one's own vocational interests and personality.	1. Analysis of Assessment Results of Holland Code Career Interest Inventory Test and MBTI Career Personality Test. 2. Group discussion: emphasizes the importance of self-cognition in career planning	1. Information Giving 2.Cognitive restructuring (CBT) 3. Homework

Session	Objective	Activities	Methods & Therapectic Techiniques
		Homework: Understanding Current Societal Career Trends	assignment
3.Social Cognition and Career Trends	To gain a deep understanding of current societal career trends, enhance personal Cognition of the job market.	1. Group Discussion on Career Trends and Industry Prospects. 2.Exploration of Career Information. Homework:Understand the development trends of careers that interest	1.Cognitive Information Processing 2.Homework assignment (SCCT)
4.Career Cognition and Industry Exploration	To gain a deep understanding of specific careers and industries, enhancing career Cognition.	Conduct simulated professional interview activities to enable members to gain in-depth understanding of the daily work content, required skills, and industry development trends of their target professions.	1.Role Playing 2.Positive Reinforcement
5.Career Decision-Making Skills	To enhance participants' career decision-making skills, assisting them in assessing career options more rationally and comprehensively	1.Explain the content of career decision-making, emphasizing its crucial role in career development. 2. SWOT Analysis 3.Decision-Making Balance Sheet Exercise. Homework: Set SMART Goals.	1. Information Giving 2.Goal-Setting 3.Homework assignment (SCCT)
6. Work Plan and Goal Setting	To develop specific work plans and short-term goals to support personal career development.	1.Setting SMART Goals. 2.Planning a Goal Summarizes the importance of action plans in career planning, emphasizing the crucial role of clear steps and timelines in achieving goals.	1. Goal Clarification 2.Simulation
7.Career Implementation Strategies and Resource Utilization	Help participants more effectively advance their career development plans.	1. Career Network Building 2.Cover Letter Writing and Developing a Draft Resume. 3.Interview Skills	1.Role Playing 2.Cognitive Rehearsal

Session	Objective	Activities	Methods & Therapectic Techiniques
8.Summary and Outlook	To comprehensively summarize the journey of the group counseling, facilitate members' deep understanding of career planning	1. Members share their short-term and long-term career goals. 2. Group Feedback and Sharing of Gains. 3. Scale measurement, setting Up a Follow-Up Mechanism.	1. Goal Clarification 2.Reinforcement 3.Group dynamics

Session 1: Group Establishment and self-exploration (60 minutes)

The objective of this counseling session is to establish group trust and initiate self-exploration. By employing psychological techniques from Super's career development theory, including group norm-setting, self-introduction and expectation-sharing, and career genogram mapping and analysis, the intervention involves ice-breaking activities, career genogram mapping and analysis, as well as the completion and interpretation of Holland's and MBTI assessments. These steps aim to enhance college students' self-awareness as a foundation for career planning.

Objective: To establish group trust and initiate self-exploration.

Tasks: Group norm setting, self-introduction and expectation sharing, Career Genogram

Theory: Super's Career Development Theory.

Activities:

1. Icebreaker Activities

1.1 The counselor introduces the objectives and process of the group counseling.

1.2 Members sequentially introduce themselves and share their initial understanding and expectations of career planning.

2. Drawing and Analyzing the career genogram

2.1 Drawing the career genogram

Hierarchical Relationship of Family Members, Begin with the grandparents' generation and draw down layer by layer. Label each member's position with their name, birth year, and occupational information. Use lines to connect family members, indicating their kinship relations, forming a complete career genogram.

2.2 Analyzing the career genogram

Observe the different occupations present in the diagram and analyze the occupational inheritance among family members, such as whether parents and children engage in similar or related professions , Identify career paths and trends within the family.Reflect on how family values have influenced your career choices and what career expectations family members have for you. Assess whether these expectations align with your personal career goals.Evaluate the career resources your family can provide, including financial support, educational opportunities, and social networks. Consider whether family members offer support and encouragement in your career choices.

2.3 Formulating Career Planning Directions

With reference to the career achievements and development paths of family members, analyze which occupations in the diagram may appeal to you and whether they match your personal traits. Combining the occupational information in the diagram with current market demands, identify potential career opportunities and challenges. Set your career goals and consider how to achieve them, including the skills, education, and experience required. Based on your analysis, develop specific career planning strategies, including plans for enhancing career skills, expanding social networks, and seeking family support. Through this process, gain a clearer understanding of your career positioning and development direction, laying a solid foundation for future career planning.

Homework:

Holland Code Career Interest Inventory Test

MBTI (Myers-Briggs Type Indicator) Career Personality Test

Session 2: Deepening Self-cognition (60 minutes)

The purpose of this counseling is to enhance understanding of one's vocational interests and personality traits. Using techniques from Cognitive Information Processing Theory, including value clarification activities, skills inventory creation, and the Interest Island exercise, this intervention involves analyzing Holland's RIASEC and MBTI test results, conducting group discussions, and completing career trend assignments to improve college students' self-awareness of personal characteristics for career planning.

Objective: Strengthen the understanding of one's own vocational interests and personality.

Tasks: Values clarification activity, skills inventory creation, interest island activity.

Theory: Cognitive Information Processing Theory.

Activities:

1. Analysis of Assessment Results

1.1 Members provide feedback on the results of the Holland Vocational Interest Test and MBTI personality test questionnaires.

1.2 The counselor briefly explains the implications of the assessment results.

2. Group Discussion

2.1 Groups are formed based on MBTI types or Holland types, and each group discusses the relationship between the test results and career choices.

2.2 Discussion questions: What is my interest type? How does it influence my career choices? What are my personality traits? Which careers are suitable for me?

2.3 Each group sends a representative to share the discussion results, and members of other groups ask questions or provide feedback. The counselor guides the discussion, helping members connect their interests and personality with career choices.

3. Summary and Feedback (10 minutes)

The counselor summarizes the discussion content, emphasizes the importance of self-cognition in career planning, and encourages members to continue exploring.

Homework:

Understanding Current Societal Career Trends

Content includes the overall trends in the current job market, popular careers (such as data analysts, AI engineers), emerging industries (such as green energy, the metaverse), etc. Emphasize the social, economic, and technological drivers behind these trends. Data and charts are provided to display relevant data and charts, such as changes in employment rates across industries, comparisons of salary levels, predictions for future job growth, etc. This helps members intuitively understand career trends, provides brief interpretations of the data, and guides members to ponder the meanings behind them.

If you need the specific content and operational procedures for Session 3 to Session 8, please contact: 677leyou@gmail.com.

APPENDIX 3 Interview Transcript

Partial Interview Record

Theme 1: Career Planning

1. Interview Question: Could you describe your career planning situation prior to participating in the group counseling program? Did you have specific career cognition or a clear direction?

Student 1: Before participating in the group counseling program, my career planning was quite uncertain. While I knew I needed to find a job after graduation, I lacked a clear direction or specific understanding of potential career paths. My knowledge about different industries mainly came from fragmented advice from family and online stereotypes, such as "finance offers high salaries" or "teaching provides stability." I had never systematically evaluated my own interests and strengths, nor had I taken any career assessment tests. Occasionally, I would feel anxious about the future, but I often avoided deeper reflection by focusing on academic work instead. My career preparation was limited to drafting a basic resume, with no real plan for achieving professional goals-I was simply following the crowd.

Student 2: "Before participating in the group counseling, my understanding of career planning was quite vague, essentially limited to superficial notions like 'finding a job after graduation.' Although the university offered some career guidance lectures, I had never systematically considered my career direction. My knowledge about different industries mainly came from fragmented information shared by family or found online-for instance, thinking that 'the finance sector offers high salaries' or that 'teaching jobs provide more stability.' However, I had never carefully reflected on my own preferences or aptitudes, leaving me with little substantive understanding of potential careers. My mindset was passive: I had never taken a career interest assessment, had no clarity about which roles aligned with my strengths, and certainly hadn't developed any phased development plan. Occasionally, I would feel anxious about the future, but these

concerns were quickly overshadowed by daily academic tasks, resulting in a prolonged state of 'planning procrastination.'"

Student 3: "To be honest, before joining the counseling program, my approach to 'career planning' amounted to following the crowd-if classmates were preparing for graduate school entrance exams, I would look into postgraduate programs; if a certain industry was trending, I would consider internships in that field. I constantly wavered: one moment aspiring to civil service jobs for stability, the next drawn to the high salaries of startup companies. I didn't even recognize that a 'career' required proactive long-term design, let alone know what tools could aid in planning. The only preparatory step I had taken was drafting a rudimentary resume template, but I had no idea how to leverage it to achieve career goals. The group counseling made me realize that this 'planless' state was essentially an avoidance of career development-because I lacked systematic knowledge and methods, I substituted long-term thinking with ad hoc decisions."

2. After participating in the comprehensive group counseling program, what changes have you observed in your career planning? In which specific areas are these changes most evident?

Student 1: "After joining the group counseling program, my approach to career planning underwent a fundamental transformation. The most notable changes manifested in three key aspects: First, I have now established a systematic planning framework by applying the SMART goal-setting method taught by the counselors to distinguish between short-term tasks and long-term objectives. For instance, I no longer submit job applications indiscriminately but instead conduct thorough self-assessment and positioning analyses first. Second, my approach to gathering career-related information has become more structured. Using the 'Career Information Interview Template' recommended during counseling, I systematically interviewed three professionals in my target industry, gaining insights far more substantial than superficial online searches. Most importantly, there has been a paradigm shift in my mindset-from merely 'job hunting' to strategically 'managing my career trajectory,' which has fundamentally changed how I approach employment opportunities."

Student 2: After participating in the group counseling program, three significant changes occurred in my career planning: Through career assessment tools and industry analysis workshops, I established a scientific career evaluation framework. For instance, the Holland Code test revealed that I possess an Investigative-Social personality combination. The Career Anchor exercise during counseling helped me identify "professional/technical competence" as my core career requirement, leading me to abandon my parents' suggestion of administrative positions and instead apply for research specialist roles.

Student 3: "The most evident improvement has been in the quality of my career decision-making. The 'Career Anchor Exploration' activity during counseling helped me identify that I value 'creative autonomy' over superficial prestige, leading me to adjust my career direction accordingly. Now, when making decisions, I simultaneously consider: compatibility as indicated by my MBTI personality assessment, five-year industry development trends, and skill development potential within the role. For example, when recently evaluating job offers, although Company A offered a 20% lower starting salary, its well-structured mentorship program and job rotation system better aligned with my 'Specialist' career anchor. This multidimensional evaluation methodology was entirely derived from the training received during group counseling."

3. How do you think the improvement in career planning skills will affect your subsequent studies and daily life?

Student 1:"The advancement in my career planning skills has brought structural changes to my academic life. First, my educational choices have become more purposeful and goal-oriented. For instance, as I aim to become a teacher after graduation, I am now actively preparing for the Teacher Qualification Certificate examination. Second, I have adopted the 'career goal reverse-engineering method' for time management, breaking long-term objectives into smaller milestones. This goal-driven approach has increased my study efficiency by at least 40%."

Student 2:"The most profound impact has been establishing a two-way adjustment mechanism between 'skill development' and 'career requirements.' In terms

of personal growth, I have set clear career objectives and begun acquiring relevant skills through targeted training and certification programs. My daily life has also been optimized accordingly-I now prioritize attending industry-related conferences and networking events over purely recreational gatherings. This transformation is not merely a mechanical reallocation of time but reflects the 'career ecosystem building' emphasized during counseling, where learning, practical experience, and networking synergize. Recently, this approach has already enabled me to secure participation in two high-quality projects."

Student 2: The career planning skills I developed through counseling will fundamentally enhance my academic and daily life through structured goal alignment. My course selection now strategically targets career-relevant skills.Most significantly, I've established an efficient resource utilization framework: leveraging campus mentoring programs, pursuing translational atrs research projects, and attending targeted networking events instead of generic job fairs. These changes have yielded measurable outcomes, including a 60% reduction in anxiety.

Theme 2: Integrative group counseling

1: Which activities or techniques in the group counseling do you think were most effective in improving your career planning skills? Why?

Student 1: The most impactful activities in the group counseling were the structured self-assessment exercises and industry immersion workshops. The Holland Code and MBTI assessments provided scientific validation of my inherent strengths, with my "Investigative-Social" profile redirecting me from generic career paths to specialized research roles. Particularly transformative was the Career Anchor workshop, where role-playing different professions helped me identify technical competence as my core motivator - this insight alone eliminated 80% of my previous career confusion. The industry competency mapping sessions were equally valuable, where we analyzed real job descriptions to identify hidden skill requirements; this directly shaped my current learning focus on data interpretation and regulatory knowledge. These experiential activities stood out because they transformed abstract career concepts into tangible,

personalized action plans, creating what our counselor called "cognitive scaffolding" for sustainable career development. The group dynamic amplified these effects, as peer feedback often revealed blind spots in my self-perception that individual counseling might have missed.

Student 2:"For me, the SMART goal-setting method and career anchor exploration activities were most impactful. The SMART method taught me to transform vague aspirations into concrete, measurable action plans. The career anchor activity, through value card sorting and scenario simulations, helped me realize that what I truly pursue is 'work-life balance' rather than superficially high-paying positions, which directly changed my job search strategy."

Student 3: "The ABC model of Cognitive Behavioral Therapy (CBT) and role-playing with industry experts helped me the most. The ABC model (Activating event-Belief-Consequence) helped me identify negative career beliefs and restructure them into more flexible thinking patterns. The role-playing activity allowed me to experience the daily work scenarios of target positions, exposing my shortcomings in data analysis presentations and prompting me to immediately enroll in relevant training."

2. What impact do you think the group counseling had on your career planning? Which factor influenced you the most?

Student 1: "Group counseling had a significant impact on me, with the deepening of Self-cognition being the most transformative. Through the MBTI test and family career tree mapping, I realized that my introverted and intuitive (INTP) traits are more suited to research-oriented rather than sales-related work-a stark contrast to my family's traditional focus on marketing careers. This breakthrough in Self-cognition led me to completely readjust my career direction and abandon the idea of blindly following family advice. Now, my job search strategy is entirely based on aligning my personal traits with industry needs."

Student 2: "The biggest impact was establishing a virtuous cycle of 'career goals driving behavior,' with the expansion of career cognition playing a key role. The mock interview activity made me realize that my desired public relations role requires not

only communication skills but also crisis management and data interpretation abilities - aspects rarely emphasized in traditional job postings. The 'industry competency map' provided by the counselor helped me systematically address these hidden requirements, and now my learning plan is fully aligned with these skill gaps."

Student 3: The group counseling program has profoundly impacted my career planning, with the most significant influence coming from the structured self-discovery process. Through psychometric assessments like the MBTI and Holland Code tests, I gained scientific validation of my personality traits and work preferences, which completely reshaped my career direction. For instance, discovering my ENTP personality type and enterprising-conventional Holland profile helped me realize my suitability for business development roles rather than the technical positions I had previously considered.The industry immersion workshops proved equally transformative. By analyzing real-world case studies and conducting informational interviews with professionals, I developed a much more nuanced understanding of various career paths. What made these insights stick was the group dynamic itself. Hearing diverse perspectives during our weekly reflection circles challenged my assumptions and broadened my horizons. The accountability partnerships we formed kept me motivated to implement changes.

APPENDIX 4 Research Application Form

关于开展“综合团体咨询提升大学生职业生涯规划能力”研究的申请

尊敬的学生工作部（学生处）：

本人拟开展题为《关于综合团体咨询提升大学生职业生涯规划能力的研究》的课题研究。该研究旨在通过实证方式探讨团体咨询在提高大学生职业生涯规划能力方面的实际效果，为高校生涯教育提供理论依据与实践指导。

本研究计划分为两个阶段进行：

问卷调查阶段：拟向校内在读大学生发放职业生涯规划相关问卷，计划收集有效问卷400份，以获取大学生在职业认知、自我认知、决策能力等方面的基本数据，分析其职业生涯发展现状。

实验研究阶段：从问卷数据中筛选出职业生涯规划能力相对薄弱的20名学生，随机分为实验组与对照组各10人。实验组将参与8次的综合团体咨询干预，干预内容包括职业认知、自我探索、生涯决策与目标设定等主题，干预前后进行量化评估，以检验咨询干预的成效。

上述研究将严格遵循伦理规范，确保所有参与者自愿参与，并签署知情同意书，所有数据仅用于学术研究，确保匿名性与保密性。

为顺利推进该研究，特此申请贵部门：

1、同意本研究在校内开展；

2、协助协调问卷发放与志愿学生招募等事宜；

3、提供必要的政策支持与指导。

本课题研究具有较强的理论价值与现实意义，成果亦可为学生事务管理及生涯指导工作提供实证参考。恳请予以审批支持！

特此申请，望批准！

申请人：LIU YUQI

2025年1月2日

APPENDIX 5 INFORMED CONSENT (Chinese)

团体咨询参与知情同意书

尊敬的同学：

您好！

感谢您对本研究的关注与支持。本次团体心理咨询活动是通过整合性团体咨询提升中国大学生职业规划能力。为确保您的权益并遵循研究伦理原则，请您在决定是否参加前，仔细阅读以下内容：

一、研究目的

本研究旨在通过开展结构化的整合性团体咨询活动，帮助大学生提升职业认知、自我认知、职业决策、职业规划及职业实施能力，促进更为科学有效的职业发展路径构建。

二、咨询形式与安排

方式：小组形式，每组10人，采用整合性团体咨询方法，结合认知行为疗法、生涯建构理论、人本主义方法等。

时间安排：共8次，每周1次，每次90分钟。

地点：校内心理辅导中心（或指定教室），提供私密安全的环境。

主导者：具有专业资质的心理咨询师和研究人员主持。

三、您的权利

自愿参加：您的参与完全出于自愿，您有权在任何阶段退出，无需说明理由，且不会受到任何负面影响。

隐私保护：本研究将严格保密您的个人信息，所有数据将用于学术研究目的，研究成果不会披露任何能够识别您的个人信息。

数据用途：您所提供的信息仅用于本次研究分析和学术发表，研究数据将进行匿名处理。

心理支持：若在团体咨询过程中产生情绪波动或不适，主导者将提供必要的心理支持或转介服务。

四、潜在风险

在讨论个体经历、自我探索等过程中可能会引发一定情绪反应。但请放心，活动在专业人员引导下进行，并将提供及时支持。

收益：通过参与活动，您将有机会增强自我认知、明确职业目标、掌握职业规划技巧，并在小组互动中获得同伴支持。

五、联系方式

如您对本项目有任何疑问，或在参与过程中需要帮助，可随时与研究者联系：

研究负责人：LIU YUQI

联系方式：677leyou@gmail.com

六、声明与签署

请您在充分理解本知情同意书内容后，自愿决定是否参加本次团体咨询活动。

本人已阅读并理解上述内容，愿意自愿参加该项研究，并同意使用本人在团体活动中的相关数据（匿名处理）用于学术研究目的。

参与者签名：_____　　日期：____年___月___日

研究者签名：_____　　日期：____年___月___日