THE INFLUENCE OF COLLEGE STUDENTS' NTREPRENEURIAL SELF-EFFICACY ON ENTREPRENEURIAL INTENTION: CAREER ADAPTABILITY AS A MEDIATING VARIABLE , PERCEIVED CAREER BARRIERS AS A MODERATING VARIABLE

By

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A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy in Education Management Graduate School, China-ASEAN International College Dhurakij Pundit University

2019

Certificate of Acknowledgement of the Dissertation

China-ASEAN International College, Dhurakij Pundit University

Doctor of Philosophy Program in Education Management

Title of Dissertation	The Influence of College Students' Entrepreneurial Self-efficacy on Entrepreneurial Intention :Career Adaptability as the Mediating Variable, Perceived Career Barriers as the Moderating Variable
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Date 25 JUL 2019

Dissertation Title: The Influence of College Students' Entrepreneurial Self-efficacy on Entrepreneurial Intention: Career Adaptability as a Mediating Variable , Perceived Career Barriers as a Moderating Variable

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Program: Ph.D. (Education Management)

Academic Year: 2019

ABSTRACT

The aim of this study is to explore the relationships among college students' entrepreneurial self-efficacy, career adaptability, perceived career barriers, and entrepreneurial intention. Based on the Theory of Planned Behavior (TPB), this study adopted the entrepreneurial self-efficacy scale, career adaptability scale, perceived career barriers scale, and entrepreneurial intention scale to investigate 1039 college students from a university in Shandong Province, China. The results indicated the following: (a) entrepreneurial self-efficacy of college student significantly and positively affected entrepreneurial intention; (b) entrepreneurial self-efficacy of college student significantly and positively affected career adaptability; (c) career adaptability significantly and positively affected entrepreneurial intention; (d) career adaptability partially mediated the effect of entrepreneurial self-efficacy on entrepreneurial intention; and (e) perceived career barriers moderated the effect of entrepreneurial self-efficacy on entrepreneurial intention. The results of this study can serve as a reference

for universities wishing to implement career education and provide entrepreneurship guidance.

Keywords: Entrepreneurial self-efficacy, career adaptability, perceived career barriers, entrepreneurial intention

ACKNOWLEDGEMENTS

When I finally finished writing my doctoral thesis, I remembered many things from the past five years. Many people want to thank you, but words are not enough to express my gratitude and feelings.

Without exception, first of all, I would like to thank President Xia Jiting and Chairman Yang wen of Shandong YingCai University, for giving me the opportunity to study for pay. You are my leaders at work, my mentors at school, and my role models in life. Without your vision and support, I would not have studied for a master's degree, let alone a doctorate. It was my extreme honor to learn and grow up with you for 19 years from youth to middle age. I got guidance from famous teachers and help from noble people. I hope I can put what I have learned into practice and give back to you and society.

Secondly, I must thank my teacher Dr. Jian-Hao Huang which overturned my stereotype of a "doctoral advisor". He is a scholar with high EQ and IQ, a young talent, and also a handsome man with many fans. The focus, of course, is that he is knowledgeable, and he is brilliant and shine when he directs papers. He can always explain complicated academic issues in simple terms, which enables me to complete doctoral thesis writing efficiently and smoothly. The knowledge and research methods he taught me are very helpful and enlightening to my work in the future.

Next, I would like to thank all the experts on the evaluation committee for their guidance, help, and instruction, so that my paper can be improved and completed smoothly. Among them, especially teacher Yi-Jian Huang, a humorous, intelligent and "warm" scholar. He is like the "OPTIMUS prime" in TRANSFORMERS，often helps

me to overcome difficulties in times of need. Little by little, too many to enumerate, I will engrave them all until the end of my life.

Thanks to my favorite family, father, mother, sister, brother-in-law and Pei-fan。No matter what I choose to do, you will always jump out to support me at the first time. Thanks to my colleagues, you have been very understanding and supportive of me for a long time, helping me to share a lot of work silently. Thanks to all my classmates for their support and company. We stay up late together, discuss statistics and papers and so on. All of this like yesterday, vivid in my eyes, brand in my memory. Finally, I thank myself, what courage it is to choose to stick to what I am not good at most. I believe this is the most reckless decision I have ever made. Never redo, but also priceless in my heart.

Xiaoping QIAO

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CHAPTER 1

INTRODUCTION

From a macroscopic aspect, the first chapter mainly states the research background, research significance, research objectives and research questions and key term definition of this study. This chapter is divided into five sections: research background, research significance, research objectives and research limitations, definition of key terms, and conclusion of the chapter.

1.1 Research Background

The 21st century is called the "Entrepreneurial Era", as it is the most active period of entrepreneurship since the Industrial Revolution (Kuratko, 2003). In recent years, entrepreneurship and entrepreneurs have become important "drivers" for national economic growth, employment, innovation, and productivity growth. Entrepreneurship is beneficial for promoting national innovation and economic growth, accelerating economic restructuring, narrowing the financial gap between regions, solving the problems of employment, ethnicity and impoverished population, and promoting the continued development of the established companies (Bosma, Acs, Autio, Coduras, & Levie, 2009; Hindle & Rushworth, 2000; Logan, Alba, & Stulus, 2003). So far, many governments and international organizations have fully recognized the importance of entrepreneurship and have clearly stated that they want to promote entrepreneurship, or at least to improve the entrepreneurial environment (OECD, 2007).

"We live in an era of great social transformation, and the changes that are

taking place are more intense than the Second Industrial Revolution in the mid-19th century or the structural changes triggered by the Great Depression and the Second World War", Drucker (1999) mentioned in his work *Management Challenges for the 21st Century*. Drucker (1985) held that: entrepreneurial companies are the main power supporting the US economy." Innovation and entrepreneurship are the focus of economic growth, which can improve productivity and employment opportunities," as described in the English government's white paper "Our Competitive Future: Building the Knowledge Driven Economy". Innovation and entrepreneurship activity are the foundation and core (Schumpeter, 1936) of the social economic development. It plays the role of bridge and link for transforming the science and technology into the productivity, and has increasingly become the important impetus for the long-term economic development of various countries. High-quality and active entrepreneurial activities are the driving source for the economic growth of all countries. Continuous entrepreneurial activities can promote the long-term growth of the national economy. To cite the United States as an example, its current economic achievements are inseparable from the decades of cultivation and promotion of entrepreneurial activities (Minniti & Bygrave, 2004). Therefore, the entrepreneurial activities receive the increasing attention from the governments around the world; the entrepreneurial researches are in the ascendant; and the entrepreneurial revolution is sweeping the world.

Entrepreneurship is a procedural concept and comprehension of the cognitive processes of entrepreneurs helps to uncover the mysteries of the entrepreneurial process (Shane & Venkataraman, 2000). Entrepreneurial motivity, entrepreneurs' reasons for action and behaviors are always the propositions full of charm and to be studied in the

field of entrepreneurial research. Thus, an in-depth discussion of the influence mechanism of entrepreneurial intentions is of great significance for understanding entrepreneurial behavior and entrepreneurial process. In the long-term research and exploration, the academic circle has gradually realized that entrepreneurship is a conscious and planned behavior (Bird, 1988). Intention is the necessary premise to take certain actions, as well as the only best predictive index of planned behavior (Krueger, 1993). The entrepreneurial intention model created by Shapero & Sokol (1982) and Krueger & Carsrud (2000) shows that individuals can only take entrepreneurial actions if they have entrepreneurial intentions; moreover, the more obvious the entrepreneurial intention, the more likely they are to start a business. The existence of entrepreneurial opportunities or business opportunities does not directly lead to entrepreneurial behavior, because entrepreneurial behavior is backed up by entrepreneurial intention (Krueger, 2007) that is not developed by everyone (Thompson, 2009). New business opportunities may mean nothing for people who are not planning to become entrepreneurs, as they are likely not be aware of such opportunities. Even if the opportunity is discovered, not everyone has an entrepreneurial intention. Entrepreneurial behavior will not appear without entrepreneurial intention. Hence, entrepreneurial intention has always been an important variable for understanding the establishment of new companies (Bird, 1988). It can be seen that entrepreneurial intention is the best predictive index of entrepreneurial behavior and the central point of understanding entrepreneurial behavior (Krueger & Brazeal, 1994; Krueger, 2000). So, exploring the formation, influence factors and interactive mechanism of college students' entrepreneurial intention is conducive to providing empirical evidence for the study of college students' entrepreneurial intentions, providing scientific reference for

entrepreneurship education and policy formulation in universities, and can serve as a reference and guidance for entrepreneurship practice guidance in universities and colleges.

Bandura (1986), famous American psychologist, systematically expounded the concept of "self-efficacy" in his book *Social Foundations of Thought and Action: A Social Cognitive Theory*. Scherer et al. (1989) introduced self-efficacy theory into the field of entrepreneurial research. Self-efficacy theory is introduced into entrepreneurial research and defined as entrepreneurial self-efficacy as an important variable for predicting entrepreneurial intention, entrepreneurial behavior, and entrepreneurial success (Boyd & Vozikis, 1994; Chen & Greeneetal, 1998; Krueger & Reillyetal, 2000; Jung & Ehrlich, 2001; Drnovsek & Glas, 2002). The research of Kruger & Brazeal (1994) shows that if an individual is only a potential entrepreneur before the actual entrepreneurial activities, entrepreneurial self-efficacy plays an important role in the process of transforming "potential" into "actual." Entrepreneurial self-efficacy is considered to be an important prerequisite for entrepreneurial intentions due to the particularity of the environment and task areas facing entrepreneurs (Boyd & Vozikis, 1994; Krueger & Brazeal, 1994). Boyd & Vozikis (1994) modified Bird's (1988) entrepreneurial intention model, using basic beliefs as the source of the two thoughts and influence attitudes, perceptions and self-efficacy, while self-efficacy directly affects entrepreneurial intention and behavior. Chen (1998) et al. also proved through empirical research that in the context of risks and uncertainties, entrepreneurial self-efficacy is confirmed to have a significant influence on entrepreneurial intention and entrepreneurial behavior. It can be said that the introduction of self-efficacy theory has made new progress and breakthroughs in entrepreneurial research. The research results

of Jung et al. (2001) and later Grzywacz, Almeida, Neupert, & Ettner (2004) validated an important conclusion made by Chen (1998), De Noble (1999a, b), and Krueger (2000): entrepreneurial self-efficacy directly and positively influenced entrepreneurial intention. Entrepreneurial self-efficacy is also considered to be a prerequisite for entrepreneurs to initiate the entrepreneurial process and gain success. This concept is more convincing in explaining the motivation and behavior of an entrepreneur who starts a business for the first time (Krueger & Brazeal, 1994).

Researches have shown that entrepreneurial self-efficacy has a direct impact on entrepreneurial intentions, but the impact process is not clear. It is necessary to examine the mediating role of entrepreneurial self-efficacy in affecting entrepreneurial intention. The mediating role can be adopted to further understand "how" entrepreneurial self-efficacy influences entrepreneurial intentions. The research of Yang Shuhan, Tian Xiulan, Wu Xinlun, and Zhu Huiqiong (2015) shows that career self-efficacy has a positive influence on career adaptability; the research of Liang Minghui (2017) research verifies that college students' career adaptability can directly predict entrepreneurial intention. Thus, this study considers career adaptability to be a mediating variable worthy of consideration. Career adaptability is "individual coping readiness for predictable career tasks, the career role involved, and in face of the change in career or the unpredictable career problems in career situation" (Savickas, 1997). It has the ability to "advance" individuals (Zhao Xiaoyun, 2010). Van Vianen et al. (2009) held that individuals with higher career adaptability have multi-role self-efficacy; Adaptability is an implicit social psychological resource (Savickas, 1997). In face of career choices or dilemmas, career adaptability can help individuals get rid of the decision-making dilemma (Li et al., 2013; Urbanaviciute et al., 2014; Hirschi et al.,

2015), and show better job performance (Guan et al., 2015; Ohme & Zacher, 2015). Ebberwein, Krieshok, Ulven, & Prosser (2004) found that adaptable individuals can have a wonderful beginning, so career adaptability is a key competency for the success of individual career (Hirschi, 2009). To sum up, college students' entrepreneurial self-efficacy may further influence entrepreneurial intention through career adaptability.

The analysis of the mediating effect of the influence of entrepreneurial self-efficacy on the entrepreneurial intention is conducive to understanding the "process" of entrepreneurial self-efficacy affecting entrepreneurial intention. Nevertheless, the influence of entrepreneurial self-efficacy on entrepreneurial intention may be moderated by other factors, and the moderating effect can better reply to the "conditions" of entrepreneurial self-efficacy influencing entrepreneurial intention. Luzzo (1996) has proved that career self-efficacy is significantly and negatively correlated with perceived career barriers; even if individuals have a high level of confidence and interest, the barriers to career entry and career advancement will still make individuals change their career choices (Albert & Luzzo, 1999; Brown & Lent, 1996). Gottfredson (1981) held that the individuals will sacrifice their career goals to cope with reality and change behavioral intentions when they perceive the specific career barriers. Lent (2000) believes that barriers perceived in the context of social cognitive theory are negatively correlated with intention goals (intentions). Therefore, this study suggests that perceived career barrier is a moderating variable worthy of consideration. Career barriers play an important role in the career development process, and barrier factors are often the main key factors for the unsatisfactory career development (Tian Xiulan, 2003). Swanson & Tokar (1991) held that understanding the career barrier factor of individuals would make the career development smooth. The

reason is that individual career choices often rely on individual assessments and responses to career barriers (Lent, Brown & Hackett, 2000). Barrier factors would make a difference in affection, thought, and behavior in the process of career choice (London, 2001). Career planning varies with individuals' chances to encounter or abilities to overcome some difficulties (Swanson, Daniels, & Tokar, 1996). Repeated concession to career goals due to career barriers will lead to anxiety, worry, and lack of confidence of individuals in career decision-making; perceived career barrier is a factor that erodes students' confidence and complicates their career planning (Ladany & Love, et al., 1995). In summary, the higher the perceived career barrier, the more likely it is to reduce the self-efficacy, thus influencing the behavioral intention. Therefore, the perceived career barrier may play a moderating role between entrepreneurial self-efficacy and entrepreneurial intention.

College students are one of the groups with the most innovative and entrepreneurial potential. Encouraging college students to start a business has become the consensus of the world today. It is an urgency to strengthen the study of college students' entrepreneurial behaviors for the economic and social development of all countries in the world, while the entrepreneurial intention is the best pointcut for the study of college students' entrepreneurial behaviors. To promote college students' entrepreneurship, it is required to first develop the entrepreneurial intentions of college students. So, it is of great significance to carry out research on college students' entrepreneurial intentions. The research on entrepreneurial intention is still in the ascendant stage, mainly focusing on the description of phenomena and behaviors. The research on individual entrepreneurial intentions, i.e. potential entrepreneurs, is still in its infancy. There are few researches on college students' entrepreneurial intention, and

most researches are about personality traits, covering a restricted scope (Krueger, Reilly, & Carsrud, 2000). Therefore, this study intends to conduct research on the entrepreneurial intention of college students. After systematically reviewing the research literature on entrepreneurial intention, this study explores the influence of entrepreneurial self-efficacy on entrepreneurial intention, the mediating role of career adaptability in the influence of entrepreneurial self-efficacy on entrepreneurial intentions, and the moderating role of perceived career barriers in the influence of college students' entrepreneurial self-efficacy on entrepreneurial intention.

1.2 Research Significance

1.2.1 Theoretical Significance

(I) Expand the dimension of research on entrepreneurial intention. On the basis of the theory of planned behavior, this study conducts relevant empirical researches on the relationship among college students' entrepreneurial self-efficacy, career adaptability, perceived career barrier and entrepreneurial intention, breaks through the traditional subjects of previous researches on entrepreneurial intention that simply take personality characteristics and personal background factors and entrepreneurial self-efficacy as independent variables and mediating variables. This study introduces career adaptability and perceived career barrier into the study of entrepreneurial intention to decompose its dimensions and further interprets it. This is a new expansion in the dimension of research on entrepreneurial intention. It is of great academic significance for theoretical research, compensates for the lack of antecedent influence factors of research on entrepreneurial intention based on the perspective of career development to a certain extent, and provides research ideas and research

framework basis for follow-up researches.

(II) Break through the traditional psychological paradigm and study the action mechanism of entrepreneurial self-efficacy on entrepreneurial intention. Traditional researches lack a comprehensive theory that both can explain the process of entrepreneurial cognition and the relationship between career development and entrepreneurial intention and can provide effective solutions and predictability. Applying the core of social cognition theory, i.e. self-efficacy theory, to the research of entrepreneurship can make up for the shortcomings of traditional psychology theory in entrepreneurship research, break through the research paradigm of traditional psychology, and study the influence mechanism of entrepreneurial intention from the perspective of social cognition and career development.

1.2.2 Practical Significance

(I) Research on entrepreneurial intention of entrepreneurs is of importance for promoting activities

Entrepreneurial activities involve various factors such as politics, economy, culture, education, law, natural resources, entrepreneurs, etc. Different disciplines, such as economics, management, sociology, pedagogy and psychology, have conducted researches on entrepreneurship from different perspectives (Hisrich, Langan-Fox, & Grant, 2007). But the core factor is entrepreneurs. Entrepreneurial activities can appear only after entrepreneurs put their entrepreneurial ideas into practice, and integrate human resources, finance, market and other resources to produce products and provide services. Venture investors point out that the personal characteristics of entrepreneurs are the most important factor influencing entrepreneurial success (Shepherd, 1999; Zopounidis, 1994). Entrepreneurs also point out that their own decisions and actions

are the most important reasons for the company's survival (MacMillan, Siegel, & Subba Narasimha, 1985; Sexton, 2001). Therefore, studying the cognitive process of entrepreneurs is the best pointcut for studying entrepreneurial intention, and is of great significance for promoting entrepreneurial activities.

(II) It is of great significance to promote the precise development of entrepreneurship education in universities

A comprehensive and accurate understanding and mastering of the level of entrepreneurial intention and specific conditions of college students is the prerequisite for providing targeted entrepreneurship education, guidance and assistance for college students. First of all, this study introduces the concept of career adaptability, which provides a new perspective for the university to cultivate students' entrepreneurship and entrepreneurship awareness. In other words, college students have different career adaptability and career decisions, so education needs to vary from person to person. Second, this study will help the entrepreneurial education practitioners think about how to carry out the entrepreneurial education. Entrepreneurship education should be a future-oriented and personalized education, and as well as the education that pays attention to teaching students in accordance with their aptitude, conducts entrepreneurship guidance and education in a targeted manner, cultivates college students' entrepreneurship, increases their entrepreneurial knowledge and skills, and does not one-sidedly emphasize the enlightenment of college students' entrepreneurial passion and seek quick success and instant benefits in education.

1.3 Research Objectives and Research Questions

1.3.1 Limitations of Previous Researches

The results of research on entrepreneurial intention as organized and analyzed above show the richness of research results in this field on the one hand and the need for further study on the other hand. Although scholars have carried out active research on the concept definition and influence factor analysis of entrepreneurial intention, there are still some problems. Many researches have limitations, and their conclusions need further discussion. I deem that further researches can be conducted from the following aspects.

(I) The concept of entrepreneurial intention needs to be further discussed

Bygrave & Hofer (1991) pointed out in his paper on entrepreneurship that excellent scientific research must begin with excellent concepts. People already have developed clear and definite conceptual definitions and measurement methods for entrepreneurial intention at the level of existing organizations/companies (Knight 1997; Brown, Davidsson & Wiklund, 2001), but individual entrepreneurial intention is still a new area of research and the academic circle has not yet given it a clear and consistent conceptual definition; only a few researches have clearly defined the concept of individual entrepreneurial intention, and the implicit definition of this concept given by the researcher can only be derived from the context or the measuring items in the scale for individual entrepreneurial innovation. Therefore, various definitions of individual entrepreneurial intention appear, and even some consider "entrepreneurial intention" as a concept that can be customized, which hinders the in-depth development of relevant theories and empirical research (Shook, Priem & McGee, 2003; Lee & Wong, 2004; Thompson, 2009). For example, Jenkins & Johnson (1997) defined entrepreneurial

intention as the desire of individual entrepreneurs who have already started their own businesses based. This definition contradicts the "intention to start a business" expressed by the entrepreneurial intention. Some scholars have mixed "owning a company" and "self-employment" with "starting a new business" when defining the "entrepreneurial intention". For instance, Singh & Denoble (2003) held that entrepreneurial intention is the desire/intention of an individual to own a business and become a self-employed; while Crant (1996) implied in measuring items of his scale that entrepreneurial intention is equivalent to ownership of the business. However, "the willingness to own a business or to self-employ" is completely different from "the willingness to start a new business". The former can be completed even there is no an entrepreneurial action (Shook, Priem & McGee, 2003). The accurate definition of entrepreneurial intention is the premise for the research on it, and more researches in this area are required.

(II) It is one-sided to conduct a research on entrepreneurial intention based on psychology

Researches of entrepreneurial intention based on psychology mostly are most the researches in terms of personality traits and inherent characteristics that may indirectly lead to or form individual entrepreneurial intentions, such as personal orientation, natural endowment, ideal and desire or hobbies (Bonnett & Furnham, 1991; Sagie & Elizur, 1999; Wang & Wong, 2004). Krueger, Reilly, & Carsrud, (2000) held that past entrepreneurship researches mostly focused on psychological traits, demographic variables, situational factors, and how to distinguish entrepreneurs from non-entrepreneurs. However, the research results are disappointing both in terms of explanatory power and predictive validity. Although individuals with certain

personality traits and tendencies may become potential entrepreneurs, they may not show special intentions or planned special behaviors indicating that they may start a business. Thus, it is necessary to distinguish individuals who have only entrepreneurial traits or characteristics from individuals with entrepreneurial intention by considering their degree of conscious thinking about how to start their own businesses at a certain stage in the future and whether they refuse to start a business. Only potential entrepreneurs with considerable entrepreneurial intention can truly engage in entrepreneurial activities (Thompson, 2009; Krueger, 2000).

On the basis of the theory of planned behavior in the social cognitive theory, this dissertation adopts interdisciplinary knowledge to discuss the influence of college students' entrepreneurial self-efficacy on entrepreneurial intention through literature review and empirical research, thereby making up for the limitations and deficiencies of previous researches on the influence of entrepreneurial intention that were conducted purely from a psychological perspective.

(III) The research on the influence factors of entrepreneurial intention needs to be further improved.

The research on the influence factors of entrepreneurial intention is the basis for understanding the generation mechanism and intervention methods of entrepreneurial intentions. There are many factors influencing individual entrepreneurial intention. From the perspective of individual factors, most of these factors are related to need, requirement, value, behavioral habit and belief (Bird, 1988; Lee & Wang, 2004). Among them, the research on the relationship between personality characteristics and individual entrepreneurial intentions accounts for a considerable part, and most of them are carried out by NEO Personality Inventory. Environmental

factors also have an influence on individual entrepreneurial intention (Tubbs & Ekeberg, 1991; Boyd & Vozikis, 1994), in which entrepreneurship education and socio-cultural differences remain hot research questions. To sum up, previous researches have achieved plentiful results mainly from the influence of individual characteristics, individual background factors, social and cultural factors and entrepreneurship education on individual entrepreneurial intention. However, the explanatory power and predictive validity are low if the entrepreneurial intention is only predicted through individual or environmental factors (Krueger, Michael, & Casrud, 2000; Zhao, Seibert, & Hills, 2005). It is still rare to see the research on the influence of college students' entrepreneurial self-efficacy on entrepreneurial intention from the perspective of career development.

Through empirical research, this dissertation attempts to verify the relationship between entrepreneurship education, career adaptability, perceived career barrier and college students' entrepreneurial intention and their influence on entrepreneurial intention, so as to further explore the contextual relationship and mechanism of variables. This makes up the gap that rare research on entrepreneurial intentions uses career adaptability as a mediating variable and perceived career barrier as a moderating variable, validates the new factors that affect college students' entrepreneurial intention and helps to explore and acquire a new influence model of entrepreneurial intention.

1.3.2 Research Objectives

In view of the shortcomings and achievements of previous researches, this study aims to study the structure, characteristics and relationship of college students' entrepreneurial self-efficacy, career adaptability, perceived career barrier and

entrepreneurial intention in the Chinese context. The specific research objectives are as follows:

(I) To study the differences in entrepreneurial intention in terms of gender, only child or not, profession, place of birth, education level of patents, the entrepreneurial history of parents' family, classmates and friends.

(II) To analyze the influence of college students' entrepreneurial self-efficacy on entrepreneurial intention.

(III) To analyze the influence of college students' entrepreneurial self-efficacy on career adaptability.

(IV) To analyze the influence of college students' career adaptability on entrepreneurial intention.

(V) To analyze the mediating role of career adaptability in the influence of college students' entrepreneurial self-efficacy on entrepreneurial intention.

(VI) To analyze the moderating role of perceived career barrier in the influence of college students' entrepreneurial self-efficacy on entrepreneurial intention.

1.3.3 Research Questions

As stated in the above research background and the research significance, we can conclude that the entrepreneurial self-efficacy as the independent variable, the career adaptability as the mediating variable, and the perceived career barrier as the moderating variable are important factors influencing college students' entrepreneurial intention. The research questions of this study are determined as follows based on this dissertation and literature review:

(I) Are there any differences in entrepreneurial intention in terms of gender, the only child or not, profession, place of birth, education level of patents, the

entrepreneurial history of parents' family, classmates and friends?

(II) Does college students' entrepreneurial self-efficacy have a significant influence on entrepreneurial intention?

(III) Does college students' entrepreneurial self-efficacy have an influence on career adaptability?

(IV) Does college students' career adaptability have an influence on entrepreneurial intention?

(V) Does career adaptability play a mediating role in the influence of college students' entrepreneurial self-efficacy on entrepreneurial intention?

(VI) Does perceived career barrier play a moderating role in the influence of college students' entrepreneurial self-efficacy on entrepreneurial intention?

1.4 Definitions of Key Terms

1.4.1 Entrepreneurial Intention

Thompson (2009) held that individuals with entrepreneurial intentions should be distinguished from those who only have entrepreneurial traits. Individuals with entrepreneurial intention should be equipped with the following two conditions at the same time: they are possible to start a business, and this possibility will not be rejected. On this basis, Thompson (2009) defined individual entrepreneurial intentions as "the belief that individuals plan to start a business, and the consciousness to implement these plans at some point in the future". Meanwhile, Thompson (2009) emphasized that individuals with the entrepreneurial intention do not need to actually start a business because numerous personal and environmental factors will influence it. Therefore, the entrepreneurial intention is only a necessary condition for becoming an early-stage

entrepreneur. In other words, becoming an early-stage entrepreneur is not the inevitable result of an entrepreneurial intention, but the early-stage entrepreneur must have an entrepreneurial intention. The research object of this dissertation is the college students. It is the individual entrepreneurial intention research against the college students, rather than the entrepreneurial intention at the company level. As a result, by referencing to the research results of Thompson (2009), this dissertation defines the "college students' entrepreneurial intention" as: a conscious psychological state that college students have a plan to start a business and have taken entrepreneurial actions.

1.4.2 Entrepreneurial Self-efficacy

Scherer (1989) and Boyd (1994) defined college students' entrepreneurial self-efficacy as the strength of beliefs that college students believe they can successfully adapt to various entrepreneurial roles and complete entrepreneurial tasks by virtue of their own abilities. Specifically, it mainly involves the following two aspects. For one thing, from the perspective of entrepreneurial roles, college students believe that they can adapt to various entrepreneurial roles; for another thing, from the perspective of entrepreneurial tasks, college students believe that they can complete entrepreneurial tasks by virtue of their own abilities In this study, "college students' entrepreneurial self-efficacy" is a concrete manifestation of individual self-efficacy in the field of entrepreneurship. Combined with Scherer's (1989) definition, this study defines "college students' entrepreneurial self-efficacy" as: college students' belief on their ability to carry out tasks or activities related to entrepreneurship.

1.4.3 Career Adaptability

Savickas illustrated the career adaptability in the theoretical construction of Super's "life span - life space", took it as the core ability of all roles in integrating the

career development, put forward the current most scientific concept of career adaptability with most recognitions, namely, "individual's coping readiness degree of facing the predictable task of preparing and participating in the work role as well as facing the unpredictable career problem in the work change or work environment (Savickas, 1997). He put forward that the career adaptability should consist of three parts: the "planned attitude", "exploration of ego and environment" and "adaptive decision", which also can be called the self-adjustment strategy. The career adaptability, as the core ability of career success, includes four dimensions: career concern, career curiosity, and career control and career confidence. Career adaptability is the ability of individuals to cope with changes in career roles, the key ability of individuals to achieve career success in a rapidly changing modern society, the coping readiness degree and coping capacity of individuals for the predictable career tasks, career roles involved and career changes or unpredictable career problems. Referring to Savicka's concept of career adaptability, this dissertation defines the career adaptability of college students as the coping readiness degree and coping capacity of college students for the predictable career tasks, career roles involved and career changes or unpredictable career problems.

1.4.4 Perceived Career Barriers

Albert (1999) held that the perceived career barriers refer to the barriers related to the career at present or in the future, but not necessarily related to the realistic background or real information. Though these barriers have no basis in reality, they have the direct influence upon the individual's career decision. This definition emphasizes that career barrier is the individual's perception and evaluation on factors that have a negative influence on his/her career development. This evaluation is

subjective, rather than objective and these factors have an actual influence on individual cognition, emotion, and decision-making behavior (Wu Xuemei, 2006). Most of the existing researches on career barrier discuss the "individual perception". Barrier factors can have an impact on the individual's career development only they are perceived by the individual. Therefore, the term "perceived career barrier" adopted in this dissertation is more reasonable and appropriate than "career barrier". Combined with the actual situation of research objects and by referencing to Albert's definition of perceived career barrier, this dissertation defines college students' perceived career barrier as unfavorable factors that college students feel or perceive or may encounter in the future that will have a negative impact on their career development.

1.5 Summary

Firstly, the first section elaborates the research background from a macro perspective, describes the significance of the research on college students' entrepreneurial intention from the importance of entrepreneurial research, and briefly summarizes the variable relation and planning study; secondly, the second section explains the significance of this dissertation from both theoretical and practical aspects; thirdly, the third section begins with the analysis of the shortcomings of previous entrepreneurial research, and determines the research objectives and sorts out the research questions of this dissertation based on these research limitations; Fourthly, the fourth section determines the definitions of key noun terms in this dissertation based on the definitions in previous research.

CHAPTER 2

LITERATURE REVIEW

This chapter mainly reviews and classifies the previous related literatures from the theoretical basis of the research, the literature review of each variable, and the relationship between variables. This chapter is divided into six sections, the first section introduces the theoretical basis of the research, expounds the origin, connotation and relationship with this study of the theoretical basis; the second section is a summary of entrepreneurial intention; the third section is a summary of entrepreneurial self-efficacy; the fourth section is a summary of career adaptability; the fifth section is a summary of perceived career barrier; the sixth section describes the relationship between variables.

2.1 Theoretical Basis of Research

The theory of planned behavior is the most important theoretical basis of this study. Therefore, this section first reviews the development process and main points of the theory of planned behavior so as to clarify the research context and research level of the theory, and then analyzes its relationship with this study and the enlightenment to this study, aiming at laying the knowledge foundation for the construction of follow-up theoretical model.

2.1.1 Development Process of the Theory of Planned Behavior

The theory of planned behavior originates from the theory of multi-attribute attitude under the cognitive framework. The theory of multi-attribute attitude of Fishbein (1963) held that behavioral intention is determined by behavioral attitude which is influenced by expected behavioral outcome and outcome assessment. On the

basis of the theory of multi-attribute attitude, Fishbein & Ajzen (1975) proposed the theory of reasoned action, which argues that behavioral intention is influenced by behavioral attitude and subjective norms, and is a direct factor determining actual behavior. Subsequently, Ajzen (1985, 1987, 1988, and 1991) extended the research on the model of the theory of reasoned action, and added a new predictor variable--perceived behavior control variable, which made him propose the theory of planned behavior in 1991.

2.1.2 Main Ideas of the Theory of Planned Behavior

(I) Connotation of the theory of planned behavior

The theory holds that the behavioral intention is a cognitive activity and reflects that it is the conscious plan for the individual to engage in some behavior. It is the best indicator of predicting the behavior. According to the theory of planned behavior, the personal behavioral belief is based on three aspects: specific behavioral attitude, subjective norm and perceived behavior control. These three aspects are found to have high accuracy for predicting behavioral intention. This theoretical model mainly classifies the influence factors of entrepreneurial intention as the individual's cognitive level. The theory of planned behavior suggests that the actual behavior can be predicted from the individual's plan and behavioral intention. Frese & Zapf (1994) pointed out that the "plan" reflects the hierarchical thinking process between cognition and behavior in the course of action. The theory of planned behavior is the "planning bridge" between cognition and action.

The theory of planned behavior holds that the formation of individual behavioral intention is mainly influenced by three independent determinants. The first determinant is behavioral attitude. Behavioral attitude means an individual's assessment

of behavior and his or her preference for performing a particular behavior (Ajzen, 1991). Attitude is a compound variable that includes both cognitive and emotional characteristics. Therefore, the theory of planned behavior holds that attitude is the tendency of individuals to act, and is determined by the individual's belief in the impact of behavioral outcomes. The second determinant is subjective norms. Subjective norms refer to the individual's perceived social pressure on whether or not to take a particular behavior (Ajzen, 1991), as well as the influence of the surrounding environment perceived by the individual when deciding whether to perform a particular behavior. It reflects the impact of the environment, important others or groups on the individual's behavioral decisions. Subjective norms are a two-way factor. In particular, normative beliefs are correlated with the expected support from family, spouse or friends. Normative beliefs establish norms for desired behaviors. Subjective norms can encourage or prevent intentional behaviors. The third determinant is the perceived behavior control. Similar to the self-efficacy (Bandura, 1986), perceived behavior control refers to an individual's perception of his ability to perform a particular behavior (Ajzen, 1991), i.e., the individual's perception of how easy or difficult it is to perform a particular behavior, reflecting the individual's perception to the factors that promote or hinder the completion of actual behaviors. Armitage, Conner, Loach & Willetts (1999) held that perceived behavior control varies with the perceived control of behavior. Thus, the stronger the perceived behavior control, the higher the expectation of performing a particular behavior. The meanings of main variables in the model of the theory of planned behavior and their influence factors are shown in Table 2.1.

Table 2.1 Meanings of main variables in the theory of planned behavior and their influence factors

Variables	Meaning	Influence Factors
Behavioral Attitude	The individual's assessment of the extent of preference to perform a particular behavior.	Behavioral belief: The individual's large amount of beliefs in the possible behavioral outcomes; it is divided into the strength of behavioral beliefs and the assessment of behavioral outcomes, which together determine behavioral attitudes.
Subjective Norms	The influence of the surrounding environment that an individual perceives when deciding whether to perform a particular behavior. It reflects the impact of the environment, important others or groups on the individual's behavioral decisions.	1. Normative belief: The expectation that the individual expects the environment, important others, or groups to perform a particular behavior; 2. Motivation to comply: The individual's intention to comply with the expectations of important others or groups have on him/her.
Perceived Behavior Control	The individual's perception of how easy or difficult it is to perform a particular behavior. It reflects the individual's perception to the factors that promote or hinder the completion of actual behaviors.	1. Control beliefs: factors perceived by individuals that may promote and hinder the implementation of actual behavior; 2. Strength of perception: The strength of influence of these factors on behaviors as perceived by the individual.

Influence factors of the theory of planned behavior. Ajzen (1991) pointed out that individual actual behavior is a function of the individual beliefs associated with it from a cognitive perspective, and the related beliefs can be divided into three types: A. Behavioral belief, which influences the individual's attitude; B. Normative belief, which constitutes the basic factor of subjective norms; C. Control belief, which

provides basis for the perceived behavior control. These three beliefs arouse an intention to act in a certain way in the individual. In different situations, the above three beliefs have different roles in the formation of behavioral intention for different individual behaviors. The individual's intention to complete a particular behavior is a key variable that explains why he does that. If the factors that trigger the behavioral intention are figured out, it is possible to thoroughly understand the motivation of the individual to take actual behaviors (Ajzen, 1987, 1991). In general, the stronger the individual's behavioral intention, the more likely it is to take actual behaviors (Ajzen, 1991). The model of the theory of planned behavior is shown in Figure 2.1.

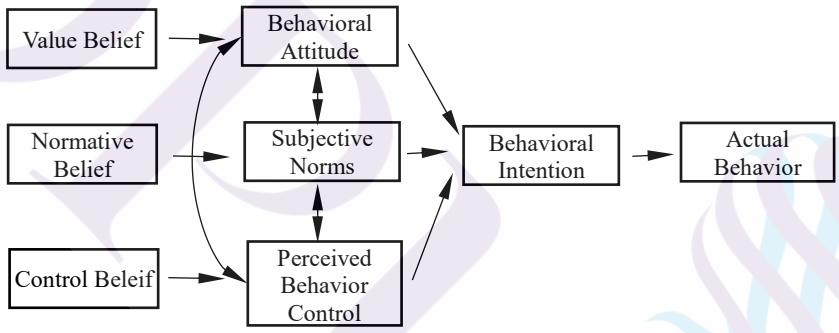

Figure 2.1 Model of theory of planned behavior (Ajzen, 1991)

(II) Main ideas of the theory of planned behavior

1. Individual behavior refers to the observable response of an individual to a specific target at a specific time and in a specific environment, including four elements: object, action, environment and time (Ajzen, 2006). Individual actual behavior is not only influenced by its behavioral intention, but also by actual control conditions such as opportunities, resources, and individual abilities. In the case that the actual control conditions are adequately prepared, the actual behavior of the individual is directly

determined by his or her behavioral intention;

2. There are three main variables in the theory of planned behavior: behavioral attitudes, subjective norms, and perceived behavior control. These three variables are independent of each other and related to each other. In other words, although these three variables are different in concepts, they may have a common belief base. Behavioral intention is mainly influenced by these three variables, and behavioral attitude, subjective norms, and perceived behavior control are significantly correlated with behavioral intention (Duan Wenting & Jiang Guangrong, 2008);

3. Behavioral attitude is the core concept of the theory of planned behavior. It is divided into two parts by many researchers: instrumental attitude (useful-harmful /valued-unvalued); and affective attitude (like-dislike/dislike/happy-pain); Research results have indicated that the affective attitude has a greater influence on behavioral intention than the instrumental attitude (Bagozzi, Ue & VanLoo, 2001; Chan & Fishbein, 1993);

4. Subjective norms reflect the influence of the environment, which is one of the four elements (object, action, environment and time) of individual behavior, on the individual's behavioral decision;

5. Perceived behavior control reflects the degree of difficulty and influence of performing a particular behavior perceived by the research subject. It is related to the self-efficacy belief and the perception of its own controllability for behaviors. Accurate perceptual behavior control reflects the actual control conditions and can be adopted as an alternative measurement indicator of actual control conditions to directly predict the likelihood of occurrence of behavior. The extent of truth of perceived behavior control determines the accuracy of the prediction;

6. Behavioral attitude, subjective norms, and perceived behavior control accept the influence of behavioral belief. That is to say, the behavioral beliefs that individuals possess in a specific time and context are the cognitive and emotional foundations of behavioral attitude, subjective norms and perceived behavior control, and behavioral belief is subject to the influence of individual and sociocultural factors such as personality, intelligence, experience, age, gender, and cultural background. In other words, these factors have an ultimately influence on individual behavioral intention and actual behavior.

Robert, Nikolay & Jose et al. (2010) confirmed through empirical research that the model of the theory of planned behavior has sound explanatory power and predictive power for research on human behavior. According to statistics, the average multiple correlation of the model has reached 0.73; the meta-analysis of Armitage & Conner (2001) shows that behavioral attitude, subjective norms, and perceived behavior control can account for 27% of behavior variance and 39% of behavioral intention variance, respectively. These researches cover a wide range of research, such as the researches of ethical behavior, risk-oriented behavior, online behavior, and entrepreneurial behavior.

2.1.3 Application and Development of the Theory of Planned Behavior in Entrepreneurship Research

(I) Application of the theory of planned behavior in entrepreneurship research

Entrepreneurship is a conscious and planned behavior (Bird, 1988). The applicability of the theory of planned behavior in entrepreneurship research has been tested and supported by a large number of empirical researches without exceptions (Kolvereid & Isaksen, 2006). Scholars such as Kolvereid (1996b), Tkachev &

Kolvereid (1999), Krueger, Reilly & Carsrud (2000), and Autio, Keeley & Klofsten (2001) et al. recommend that the model of the theory of planned behavior is adopted to predict the individual's entrepreneurial intention.

In entrepreneurship researches, many scholars use Ajzen's theory of planned behavior theory to explore the influence of individual entrepreneurial intention on the activities of starting a business. For example, Kolvereid (1996b) adopted the theory of planned behavior as a basis to study the entrepreneurial intention of Norwegian undergraduates majoring in business. The results showed that the three antecedent factors of behavioral intention: attitude, subjective norms and perceived behavior control, proposed by Ajzen had a significant influence on entrepreneurial intention. Tkachev & Kolvereid (1999) used the Russian undergraduates majoring in medical engineering as the survey object to test the validity of the three antecedent variables in the model of the theory of planned behavior, also concluding that the three antecedent variables were significantly related to the individual entrepreneurial intention.

(II) Development of the theory of planned behavior in entrepreneurship research

Krueger, Reilly, & Carsrud (2000) considered the theory of planned behavior (TPB) and the model of entrepreneurial event (SEE), finding that there is great homogeneity between them. Both contain a common element that is conceptually related to self-efficacy. This element is the perceived behavior control in TPB and is perceived feasibility in SEE; in addition, the attitude and subjective norms in TPB are equivalent to the perceived need in SEE; researches have also shown that perceived need, behavioral tendency, and perceived feasibility can explain more than half of the variations in entrepreneurial intention, while the perceived feasibility can explain most

of the variations. Therefore, Krueger, Reilly, & Carsrud (2000) revised the theory of planned behavior by merging TPB and SEE, and applying TPB to entrepreneurial research. They proposed that the antecedent variables influencing the three variables of the theory of planned behavior are value expectation, normative belief and self-efficacy. On the basis of the original model, the specific behavioral attitude is decomposed again, and the variables such as self-efficacy are introduced, which provides a reference for the future research on entrepreneurial intention at the cognitive level. The revised model of the theory of planned behavior is shown in Figure 2.2.

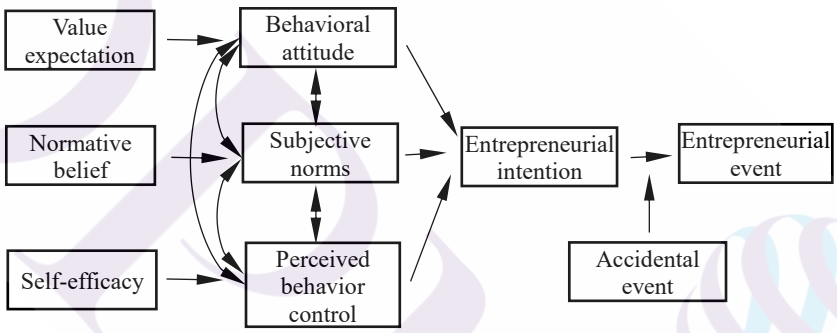

Figure 2.2 Krueger (2000)'s entrepreneurial intention model

The college students' entrepreneurial self-efficacy in this dissertation refers to the belief that college students can accomplish their tasks or activities related to entrepreneurship, and the perceived behavior control is the individual's perception of how easy or difficult it is to perform a particular behavior (Ajzen, 1991). Therefore, this study regards college students' entrepreneurial self-efficacy as a kind of perceived behavior control. Second, career adaptability refers to attitudes, beliefs, and abilities required to develop career concern, career control, career curiosity and career confidence (Savaks, 2005), while behavioral attitude means an individual's assessment

of behavior and his or her preference for performing a particular behavior (Ajzen, 1991). That's why this study regards career adaptability as a kind of behavioral attitude. Third, the perceived career barrier in this dissertation refers to unfavorable factors that college students feel or perceive or may encounter in the future that will have a negative influence on their career development; subjective norms refer to the individual's perceived social pressure on whether or not to take a particular behavior (Ajzen, 1991). Thus, this study regards perceived career barrier as a kind of subjective norm. Fourth, this study considers entrepreneurial intention as a kind of behavioral intention. Therefore, taking the influence of perceived behavior control, subjective norms and behavioral attitude on behavioral intention as the theoretical basis, this dissertation has explored the relationship of college students' entrepreneurial self-efficacy, career adaptability and perceived career barrier with entrepreneurial intention.

2.2 Entrepreneurial Intention

2.2.1 Definition of Entrepreneurial Intention

(I) Definition of intention

Intention is a concept deriving from social psychology and is a state of mind. It reflects the individual's belief in taking a particular behavior in the future and directs the individual to focus on the specific goals and ways of performing the behavior; and it is the individual's active commitment to performing a certain behavior in the future (Bird, 1988; Bandura, 2001). Intention has a tensile characteristic and maintains its value, persistence, and extent of effort even if it is hindered. This has been verified by many theorists and research scholars (Bugental, 1980; McClelland, 1985); it is also adopted in the behavior control model of psychology as a variable leading to the

occurrence of behavior. Ajzen (1991) held that any behavior that needs to be planned can be predicted by the individual's behavioral intention. Bird (1988) defined the intention as the mental state of human attention, experience and behavior toward a specific objective or behavior.

(II) Concept of entrepreneurial intention

Bird (1988) first proposed the concept of "entrepreneurial intention", and held that entrepreneurship and strategic management are two different behaviors. He defined the entrepreneurial intention as "the psychological state that leads entrepreneur's attention, energy and behavior to a specific objective" based on the concept of "intention", and held that entrepreneurship ideas inspired by inspiration must be realized through the entrepreneurial intention. Ajzen (1987) put forward the intention model, and held that the entrepreneurial intention can transform entrepreneur's explanations of external entrepreneurial conditions into entrepreneurial behavior, while the entrepreneur's entrepreneurial intention can be influenced by the cognitive process. Bird (1988) held that the situational factors of entrepreneurship were composed of social, political and economic variables, and the entrepreneurial intention may lead to the creation of new undertakings and new values in existing undertakings. The entrepreneurial intention, personal background (personal experience, character and ability) and social background (individual's social, policy and economic background) will interact during formation of entrepreneurial behavior, while personal or social factors must influence entrepreneurial behavior through the intention. He also held that the entrepreneurial intention refers to the decision-making thought that guides the operation form and direction of new enterprises. It exists as a window to observe relations, resources and changes, and it is not only the result of rational, analytical and

causal thinking process, but also the result of perceptual and holistic thinking, which is influenced by rational analytical thinking and intuitive holistic thinking. Bird's (1988) definition of entrepreneurial intention has been cited by many scholars (Souitaris et al., 2007; Zhao et al., 2010).

Krueger (1993) pointed out that the intention represents the degree of commitment to a target behavior in the future, while the entrepreneurship refers to the establishment of a new enterprise, so entrepreneurial intention refers to the degree of commitment to start new businesses. The higher the entrepreneurial degree of commitment is, the stronger the entrepreneurial intention will be. Krueger & Brazeal (1994) put forward the concept of potential entrepreneurs and pointed out that potential entrepreneurs show strong initiative when there is an attractive entrepreneurial opportunity. Therefore, entrepreneurial activities need potential entrepreneurs. Thereafter, Krueger et al. (2000) defined entrepreneurial intention as "a personal belief of performing a specific behavior or preparing to act". He holds that entrepreneurial intention is not only a subjective attitude of potential entrepreneurs towards whether they engage in entrepreneurial activities or not, but also an entrepreneurial precondition for entrepreneurs. Only when potential entrepreneurs have a certain degree of entrepreneurial intention can they engage in entrepreneurial activities. Therefore, entrepreneurial intention is the best predictive index of entrepreneurial behavior, the general description of the degree to which people have characteristics similar to entrepreneurs and their attitudes and abilities toward entrepreneurship, and the motive power for enterprises or organizations to seek development or innovation.

Based on the criticism and summary of previous researches, Thompson (2009) proposed that individuals with the entrepreneurial intention should be distinguished

from those who only have entrepreneurial characteristics. Individuals with entrepreneurial intention should be equipped with the following two conditions at the same time: they are possible to start a business, and this possibility will not be rejected. On this basis, Thompson (2009) defined individual entrepreneurial intentions as "the belief that individuals plan to start a business, and the consciousness to implement these plans at some point in the future". He emphasized that the behavior time may be imminent or uncertain, or may not exist. Individuals with the entrepreneurial intention do not really need to start new businesses, because they are influenced by the personal and environmental factors. Therefore, the entrepreneurial intention is only a necessary condition for becoming an early-stage entrepreneur. In other words, becoming an early-stage entrepreneur is not the inevitable result of an entrepreneurial intention, but the early-stage entrepreneur must have an entrepreneurial intention. The key point to distinguish the entrepreneurs with entrepreneurial intention from the early-stage entrepreneurs is that when the individuals with entrepreneurial intention can be called the early-stage entrepreneurs.

Gollwitzer & Brandstätter (1997) put forward the concept of the goal intention and implementation intention when studying the intention. The form of the goal intention is that "I want to achieve X", of which X refers to the final state to be achieved, and it can be abstract or concrete. For example, "I want to be an entrepreneur". The result of goal intention is a sense of commitment to reach the final state. The implementation intention can be adopted as a mediating factor to further pursue the goal.

DeNoble et al. (1999) defined the entrepreneurial intention as the experimental subject's intrinsic idea, degree of preference and behavior disposition

toward starting new businesses. Baughn et al. (2006) adopted the same view and transformed its concept into a measurement question in his study. Phan et al. (2002) & Lüthje et al. (2003) chose different research samples and contents, and defined entrepreneurial intention as the possibility of students choosing to start their own businesses. Lee & Wang (2004) held that the entrepreneurial intention refers to the individual's intention to start a new business, which is the first step in the long-term process and evolution of new business creation.

The research object of this dissertation is the college students. It is the individual entrepreneurial intention research against the college students, rather than the entrepreneurial intention at the company level. As a result, by referencing to the research results of Thompson (2009), this dissertation defines the "college students' entrepreneurial intention" as: a conscious psychological state that college students have a plan to start a business and have taken entrepreneurial actions.

2.2.2 Research Related to Entrepreneurial Intention

Krueger's (2000) intention model can predict behavior better than individual and environmental variables. The entrepreneurial intention model provides a concise, coherent and effective theoretical framework for better explaining and predicting the entrepreneurial process (Krueger, 1993, 2000). A variety of intention models has been developed in previous researches, including Ajzen (1991) model, Shapero (1975; Shapero & Sokol, 1982) model, Krueger (1993; Krueger et al., 1994, 2000) modified model, Bird (1988) model and Boyd & Vozikis (1994) modified model, etc. These leading entrepreneurial intention models are similar, which focus on pre-entrepreneurial activities, integrated attitudes and behavioral theory & social learning theory (Peterman & Kennedy, 2003). This dissertation lists two classical entrepreneurial intention models,

which are as follows:

(I) Shapero's Entrepreneurial Event Model

Shapero & Sokol's (1982) entrepreneurial event model is one of the earliest entrepreneurial intention models. It is the intention model for entrepreneurial field, and argues that the individual entrepreneurial intention is influenced by the demand perception, behavior disposition and feasibility perception, and these three variables present the positive correlation with the entrepreneurial intention. The demand perception has the greatest predictive ability for the entrepreneurial intention (Shapero, 1982). Shapero & Sokol (1982) published a pioneering article entitled "Social Dimension of Entrepreneurship". In this dissertation, they take entrepreneurial events, rather than entrepreneurship itself, as the analysis object for the first time. They classify entrepreneurial events as dependent variables and classify individuals or groups as independent variables. Besides, Shapero & Sokol held that different situational factors (economic, cultural, social and political factors) also have an impact on entrepreneurial events. They hope to be able to answer two important questions: what are the factors leading individuals to make life-changing decisions? What are the reasons for individuals to make specific choices?

Based on the entrepreneurial event model, the three main antecedents of entrepreneurial intention are demand cognition, feasibility cognition and action tendency. The first antecedent is demand cognition. In the entrepreneurial event model, the demand cognition refers to the "degree of attraction of individuals to establish a company (including internal and external factors)". In brief, the demand represents the attraction of freelance to individuals. The second antecedent is feasibility cognition. In the entrepreneurial event model, the feasibility cognition refers to the "degree of self-

confidence of individuals in completing the entrepreneurial tasks and becoming entrepreneurs" (Schlaegel & Koenig, 2014). At the same time, the feasibility cognition can also be defined as "the possibility of individual's feeling of being an entrepreneur" (individual feels he or she can be an entrepreneur). The third antecedent is action tendency. Schlegel & Koening (2014) defined action tendency as "individual's tendency to take entrepreneurial action". The action tendency reflects the will of the intention. The "demand cognition and feasibility cognition" are the result of social and cultural environment, which can urge individuals to seriously consider taking what kinds of measures and finally take action. The demand cognition affects the entrepreneurial events through the individual value system, and depends on the social system in which the individual lives. The social system includes different backgrounds, such as family, close friends, colleagues, ethnicities, schools and work-related backgrounds, etc. Shapero & Sokol (1982) held that changes in personal future plans (e.g., enhanced entrepreneurial intention) may be caused by major events such as unemployment, marriage, divorce, changes in living places, immigration and graduation, etc. These inducements transform the individual intentions into actual actions, i.e. event presentation or translocation. Based on the entrepreneurial event model, Shapero & Sokol (1982) distinguished the concepts of entrepreneurial events and entrepreneurs, thus focusing on the research on entrepreneurial events.

Both the model and the theory of planned behavior belong to the research on entrepreneurial intention from the perspective of individual cognition, which is better than the former. It adds the translocation into the process from intention to behavior, which involves the role of environmental factors. The basic idea of the entrepreneurial event model is that the entrepreneurial intention originates from demand, feasibility

perception and action tendency. The translocation plays an important role in the process from entrepreneurial intention to actual action, and it is a key event to induce the entrepreneurial behavior.

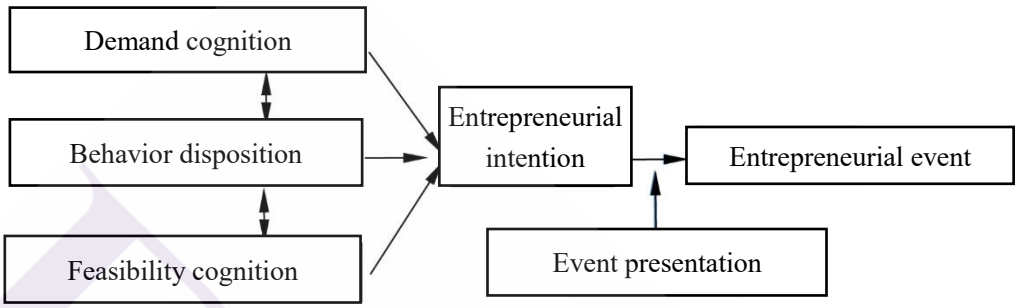

Figure 2.3 Entrepreneurial event model (Shapero, 1982)

(II) Modified Model of Entrepreneurial Intention of Krueger et al.

Krueger & Brazeal (1994) put forward the simple model of entrepreneurial intention based on the theory of planned behavior and entrepreneurial event model. The model puts forward the process of the potential entrepreneurs developing from perceived demand, perceived feasibility to the production of entrepreneurial intention, and summarizes other influencing factors. The model presents that the behavior choice depends on the behavior reliability and action tendency, and the reliability requires that the behavior shall be demanding and feasible. When the combined action of demand perceived externally and feasibility perceived internally by the entrepreneur produces the reliable information, and further produces the entrepreneurial potential under the drive of the certain action tendency. The entrepreneurial potential will finally form the entrepreneurial intention after being stimulated by the emergency or other alternative events.

The model of Krueger & Brazeal (1994) assumes that: the inertia guides

human behavior until something interrupts or replaces it (i.e., occurrence of emergency). This refines the role of translocation as an external variable on the basis of previous entrepreneurial event models. However, this replacement has different positive or negative influences in different situations. In addition, the model proves the existence of entrepreneurial potential between the action tendency causing entrepreneurial intention and emergency replacement. The intention in the entrepreneurial event model can be replaced by the potential and the behavior can be replaced by the intention. Due to the complex formation process of entrepreneurial intention, the entrepreneurial intention is also influenced by objective environmental factors to varying degrees besides individual subjective factors, while the process from entrepreneurial intention to entrepreneurial behavior is a more complex process, which cannot be obtained through direct translocation of simple external emergency. Therefore, the model is more in line with the actual situation than the original model and tends to be more satisfactory.

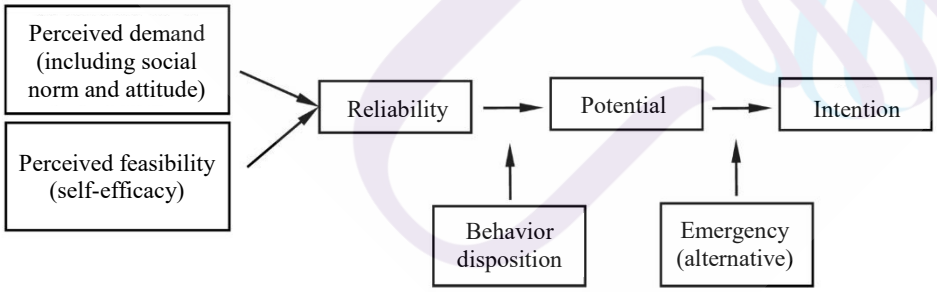

Figure 2.4 Simple model of entrepreneurial intention (Krueger et al., 1994)

Kruger et al. (2000) modified the model, further refined the two dimensions of perceived demand and perceived feasibility, and included external factors. In the modified model, perceived demand and perceived feasibility become mediating variables. The former is divided into individual demand and perceived social norms,

while the latter is divided into perceived self-efficacy and perceived collective efficacy. External factors can influence entrepreneurial intention through perceived demand and perceived feasibility. Some unexpected factors play a correction role in the model.

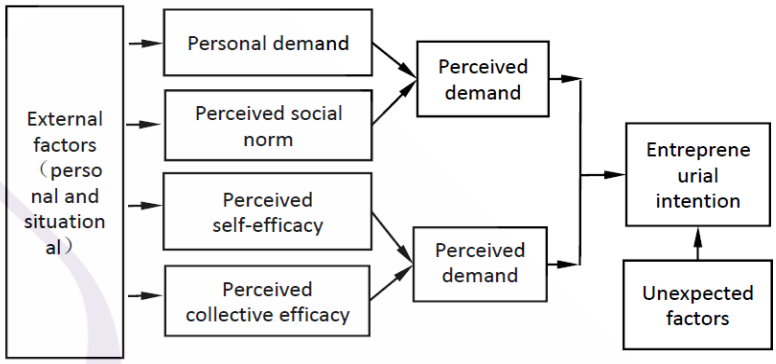

Figure 2.5 Modified model of entrepreneurial intention (Krueger et al., 2000)

From the modified model of entrepreneurial intention proposed by Krueger et al., we can know that researchers have integrated external situational factors and internal individual characteristics to explore the formation mechanism of entrepreneurial intention. Some external factors (individual and situational) influence the perceived demand by acting on individual inherent characteristics (individual demand, perceived social norms, self-efficacy and collective efficacy), and further act on entrepreneurial intention with external unexpected factors.

2.2.3 Influence Factors of Entrepreneurial Intention

Shook, Priem & McGee (2003) held that individual psychology, trait and cognition will influence entrepreneurial intentions, finding and discovery of opportunities, decision-making to start new businesses, as well as utilization of

opportunities and development of activities. Moreover, different attitudes, traits, skills, abilities and cognitions of entrepreneurs also affect entrepreneurial intention, opportunity discovery, decision-making process and follow-up action (Shook, Priem & McGee, 2003). As shown in the figure below:

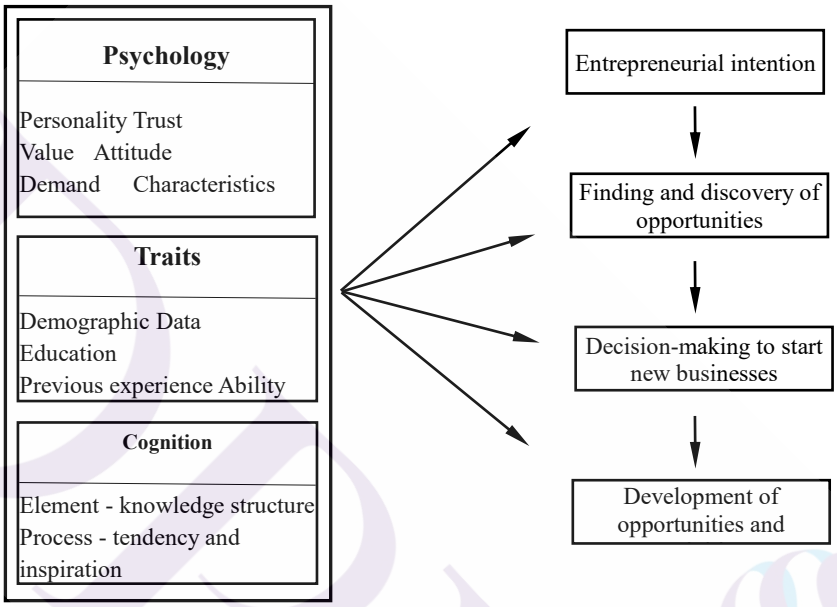

Figure 2.6 Influence factors of shook's creative intention

(I) Demographic Variables

1. Gender

Traditionally, compared with men, women are less likely to choose entrepreneurship. Typical entrepreneurs are seen as having traditional masculinity (Baron, Markman, & Hirsa, 2001). Many researchers have found that the entrepreneurial intention of men is higher than that of women (Crant, 1996; De Wit & Van Winden, 1989; Gupta, Turban, & Bhawe, 2008; Gürol & Atsan, 2006; Kourilsky & Walstad, 1998; Lerner & Yeoshua, 1996; Matthews & Moser, 1996; Mesch & Czamanski, 1997; Zhao, Seibert, & Hills, 2005). In the value system created by social

culture, the gender belief system maintains a grade evaluation, namely, traits and characteristics of men are superior to those of women (Marlow & Patton, 2005). This may explain why women tend to think that their entrepreneurial environment is inferior to that of men (Langowitz & Minniti, 2007). Perhaps this perception contributes to lower entrepreneurial intentions of women.

2. Urban and Rural

Most researches on entrepreneurship take the urban population as the subjects, and pay little attention to rural entrepreneurship (Acs & Malecki, 2003; Fuller-Love, Midmore, Thomas, & Henley, 2006), but some scholars have also investigated the differences between urban and rural entrepreneurship. For example, from the survey of subjects aged 35-64, Pushkarskaya (2008) found that men living in cities or suburbs were more willing to plan to start new businesses than men living in rural areas; from the survey of subjects aged about 40, Brooksbank, D., Thompson, P., & Williams, R. (2008) found that urban people were more likely to view entrepreneurship as a wonderful career choice. These researches seem to indicate that the entrepreneurial intention of urban population is higher than that of rural population.

3. Patents' Entrepreneurial Experience

There is a close relationship between parents' entrepreneurial experience and individual entrepreneurial intention. Teenagers' parents are their initial role models, which have an important influence on their self-image in life. The teenagers will probably choose to start a business if their parents are entrepreneurs (Bandura, 1977). The research has found that entrepreneurs often come from families where their mothers or fathers are self-employed (Crant, 1996; Dyer, 1992). The existence of role models in families is closely related to entrepreneurial intentions and activities

(Waddell, 1983). The parent role models and/or self-employment experience are considered to influence teenager' entrepreneurial attitudes and behaviors (Dyer & Handler, 1994). The research found that 35% to 70% of entrepreneurs have entrepreneurial role models (Scherer, Adams, Carley, & Wiebe, 1989). Scott & Twomey (1988) pointed out that the parent role model affected the individual perception of being an entrepreneur, and that students whose parents owned enterprises showed a higher preference for self-employment. Wagner & Kuckertz (2010) found that college students whose parents are self-employed have stronger entrepreneurial intention. Matthew & Moser (1996) pointed out in a longitudinal study that the parent role model plays the most prominent role in entrepreneurship among many individual characteristics. Many other researches have also found that children whose parents are self-employed have higher entrepreneurial intentions (Brown, 1990; De Wit & Van Winden, 1989; Hakim, 1988; Schiller & Crewson, 1997; Taylor, 1996). Dyer (1994) pointed out that potential entrepreneurs develop their interest in entrepreneurship and absorb entrepreneurial knowledge unconsciously, which is very valuable for them to start a business. Carroll & Mosakowski (1987) held that children whose parents are self-employed would work in their own enterprises at a very young age and then start their own businesses. Self-employed parents provide their children with entrepreneurship-related training and experience in the difference between self-employment and salaried work (Raijman, 2001). Casson (1990) held that many parents of entrepreneurs are entrepreneurs, and their success is due to family education and relational network.

(II) Ability

In the research field of entrepreneurial intention, there are not many researches on the relationship between ability and entrepreneurial intention. Only a few

researchers studied the relationship between variables (immediate decision-making, leadership and emotional intelligence) and entrepreneurial intention. Hmieleski & Corbett (2006) found that immediate decision-making can significantly predict entrepreneurial intention, and its explanatory rate exceeds personality, motivation, cognitive style and social role model and other factors; Izquierdo & Buelens (2008) found that opportunity identification and evaluation, communication ability and self-efficacy mediated the entrepreneurial intention; Zampetakis et al. (2009) found that emotional intelligence plays a positive role in predicting the entrepreneurial intention by affecting initiative and innovation, and further affecting entrepreneurial attitude; Wen Liang and Li Lina (2010), scholars in mainland China, found that entrepreneurial ability can positively predict entrepreneurial intention.

(III) Attitude

In the entrepreneurial intention literature, one of the key variables in the theory of planned behavior is the attitude toward entrepreneurship, and this theory has a great influence, so most researches have discussed the relationship between the attitude toward entrepreneurship and entrepreneurial intention, however, some researchers have also studied the relationship between other attitude variables and entrepreneurial intention. Van Gelderen, Brand, van Praag, Bodewes, Poutsma, & Van Gils (2008) found that the more positive the attitude toward financial security and workload avoidance is, the weaker the entrepreneurial intention is; the more positive the attitude toward self-determination, challenge and wealth accumulation is, the stronger the entrepreneurial intention will be; Davidsson (1995) found that the positive attitudes toward change, achievement, social contribution and professional knowledge can significantly predict the entrepreneurial intention. Scholars in mainland China also

found that the entrepreneurial attitude can positively predict the entrepreneurial intention (He Dan, 2006; Jiang Yan, 2008; Ye Xian, 2010).

(IV) Self-efficacy

Boyd & Vozikis (1994) first introduced self-efficacy into the study of entrepreneurial intention, and pointed out that the entrepreneurial self-efficacy plays an instrumental role in the formation of entrepreneurship intention. The intention to start a company is partly due to the perception of expected results, namely, very few people will have the intention to join in entrepreneurial activities if they believe that the probability of failure is high. The entrepreneurial self-efficacy refers to the degree of confidence of individuals in their ability to successfully play the role of entrepreneurs and fulfill entrepreneurial tasks (Chen, Greene, & Crick, 1998). Among many antecedent variables, the entrepreneurial self-efficacy is the key variable influencing the entrepreneurial intention and has a excellent predictive effect (Krueger & Brazeal, 1994; Forbes, 2005; Wilson, Kickul & Marlino, 2007). Based on the social cognitive theory, Zhao & Seibert (2005) first discussed the mediating effect of self-efficacy between individual factors (entrepreneurial learning, entrepreneurial experience, risk propensity and gender) and entrepreneurial intention. Many literatures on entrepreneurship have found a positive relationship between entrepreneurial self-efficacy and entrepreneurial intention (De Noble, Jung, & Ehrlich, 1999; Krueger & Brazeal, 1994; Luthans, Stajkovic, & Ibrayeva, 2000; Sequeira, Mueller, & Mcgee, 2007).

2.2.4 Measurement of Entrepreneurial Intention

(I) Classification of Measurement Methods

At present, there is no recognized and unified measurement method for the

entrepreneurial intention. Although there are many measuring tools for entrepreneurial intention, few researchers have reported its validity index, and there is also no study on measuring items, scales, dimensions, internal consistency reliability, test-retest reliability, sources of concept, content validity or empirical development of tools (Thompson, 2009). This leads to the lack of consistency of measuring tools, thus making it difficult for researchers to compare, validate, integrate or expand the current research. All these measurement methods result in uneven and incomparable results (Thompson, 2009).

Sagie & Elizur (1999) and Korunka et al. (2003) adopted the absolute method of measurement; other scholars, such as Lee & Wong (2004), adopted self-categorization method to measure the entrepreneurial intention. However, all these measurement methods result in uneven and incomparable results (Thompson, 2009). The measurement of individual entrepreneurial intention is not a simple "yes" or "no" problem, but a matter of degree. The degree and intensity of individual entrepreneurial intention vary from person to person, and the same individual also varies from time to time due to the situational changes. Therefore, the continuous measurement method should be adopted to assess the entrepreneurial intention rather than absolute method of measurement (Thompson, 2009).

Krueger et al. (2000), Auken (2006) and Wilson, Kickul & Marlino (2007) only used one item to measure the entrepreneurial intention of the subjects, for example, "assessment of the possibility that you will start a new business in the next five years". However, they were also aware of the reliability and validity of the single-item measurement, so they recommended "using the multi-item measurement to reduce measuring errors". The multi-item measurement is mainstream method to measure the

entrepreneurial intention at present (Chen et al., 1988; Mueller & Thomas, 2001; Zhao & Seibert, 2005; Thompson, 2009). In the practical research, many scholars also adopted the multi-item measurement to study the entrepreneurial intention (Reitan, 1997; Chen, Greene, & Crick, 1998; Vesalainen & Pihkala, 1999; Audet, 2004; Davidsson, 1995; Kennedy, Drennan, Renfrow, & Watson, 2003). For example, Mueller & Thomas (2001) adopted the combination of control point and innovative measurement to measure the entrepreneurial intention; Schmitt-Rodermund & Vondracek (2002) studied the entrepreneurial intention with the contents of vocational interest measurement.

(II) Measuring Tools for Entrepreneurial Intention

1. Five-item Scale of Chen, Greene & Crick (1998)

There are five items in this scale, and the subjects were asked "how interested they are in starting a new business", "how much consideration they have for starting a new business", "how ready they are to start a new business", "the possibility of doing their best to start a new enterprise" and "how soon they will start a new business". The scale was scored with the Likert 5-point scale, and the Cronbach α coefficient was 0.92. This scale is a wonderful validity index (Zhao & Seibert, 2005; Thompson, 2009) and has been cited by many scholars (such as Hmieleski & Corbett, 2006).

2. Four-item Scale of Zhao & Seibert (2005)

This scale measures entrepreneurial intention with four items. The items involve how interested subjects are in starting a new business (starting a company, acquiring a small company, starting and establishing a fast-growing company and acquiring and developing the company rapidly) in the next 5-10 years. This scale was scored by Likert 5-point scale, with 1 point representing no interest and 5 points

representing very interest. The average score of four items is adopted to measure the intensity of the entrepreneurial intention. This scale had a high correlation validity with the entrepreneurial intention scale developed by Chen et al. (1998). The Cronbach α coefficients measured in two different time periods were 0.85 and 0.88, respectively. Gupta et al. (2008) cited this scale for research, and α coefficient reported was 0.93.

3. Individual Entrepreneurial Intention Scale of Thompson (2009)

Based on the clear definition of the concept of individual entrepreneurial intention, Thompson (2009) first studied the measurement of entrepreneurial intention deeply and systematically, and developed an individual entrepreneurial intention scale (IEIS). The scale requires subjects to judge the consistency between the item descriptions and their actual situation. It consists of 6 items, namely, "intending to run a company in the future", "never looking for entrepreneurial opportunities", "saving money for running a company", "never reading books on how to run a company", "not knowing how to start a business", and "spending time in learning about entrepreneurial knowledge". This scale was scored by Likert 6-point scale, with 1 point representing complete inconsistency and 6 points representing complete consistency, of which questions 2, 4 and 5 were inverse scoring. This scale has excellent reliability (α=0.89) and validity (0.84), as well as cross-country and cross-population stability. The contribution rate of items to the principal component was greater than 0.8, and the test-retest reliability and validity were α=0.787/0.709. Based on the characteristics of college students, this study combines adopted Thompson's (2009) individual entrepreneurial intention scale.

2.3 Entrepreneurial Self-efficacy

2.3.1 Concept of Self-efficacy

(I) Origin

The concept of self-efficacy was first proposed by Albert Bandura (1977), a famous American psychologist, in his paper *Self-efficacy: A Comprehensive Theory of Behavior Change*. Bandura (1977) defined the self-efficacy as "individual's judgment and belief in how to carry out an action plan effectively in the face of special situations". In 1980, Bandura gave a more thorough exposition of the self-efficacy principle in his speech entitled *The Self-efficacy Mechanism in Human Behavior* in the Distinguished Scientific Contributions Award Conference of American Psychological Association, pointing out that self-perception of efficacy influences thinking model, action and emotional activation. Since then, Bandura (1986) systematically discussed the self-efficacy mechanism and perfected this principle in his great work - *Social Foundation of Thought and Action*. In the book, he further pointed out that self-efficacy is not a direct assessment of individual own skills, but a self-assessment on degree of completion of activities and behaviors. The self-efficacy involves the individual self-confidence in the ability of his/her own skills to complete the work behavior rather than skills. In *Self-efficacy: The Use of Control*, Bandura (1997) systematically discussed how self-efficacy plays an individual and collective role in human well-being with other social cognitive factors; he also analyzed the structure and essence of self-efficacy, the origin and function of self-efficacy, the process of self-belief and the wide application of self-efficacy in various fields. These works systematically discussed the concept and theory of self-efficacy and form a relatively perfect theoretical framework.

The self-efficacy is the fulcrum of Bandura's social cognitive theory and the core concept of Bandura's social learning theory and social cognitive theory. Its research contents extend from the formation mechanism, influence factor and action mechanism of self-efficacy connotation to the relationship between self-efficacy and other theories. Domestic and foreign researches proved that the self-efficacy was of great significance to improve job performance, motivation and attitude. People's judgment of their abilities plays a major role in their self-adjustment system, and the concept of self-efficacy is put forward accordingly.

Bandura (1977) held that self-efficacy refers to the self-recognition and assessment of an individual ability to accomplish or achieve a given task or goal based on the self-recognition. The self-efficacy is the basis of individual behavior choice and the key variable influencing individual behavior. The high-tendency individual expression of participating in tasks or achieving goals in a certain field is high self-efficacy of individual in this field. It should also be pointed out that the individual has a self-adjustment system, and the main role of which is the individual ability to recognize and judge, namely, self-efficacy. The research of Markham & Balkin & Baron (2002) on self-efficacy showed that individuals influence their related attitudes and behavior dispositions based on their cognition and assessment of their abilities, namely, self-efficacy influences individual behavior rather than individual objective ability.

(II) Concept overview

Since the first proposal of Bandura in 1977, the self-efficacy has been constantly developing and improving. Researchers define the self-efficacy based on the process or manifestation, or the object and scope of self-efficacy. In combination with

the main ideas of self-efficacy research in the past literature, this dissertation summarizes the definition of the concept. The specific contents are as follows.

Table 2.2 Summary of partial self-efficacy definitions

Research literature	Definition
Bandura (1986)	Individual's judgments, beliefs or self-mastery and feelings about whether he/she can accomplish an activity at a certain level.
Schultz (1996)	Individual's sense of competence, self-confidence and self-esteem in the face of an activity task.
Ashton, webb (1986)	Individual's mental state when reacting to a particular environment.
Barfield &Burlingame (1974)	A personality that enables individuals to deal effectively with the world around them.
C. Midgley (1989)	An effective or ineffective feeling that an individual's behavior influences his/her performance.
Stajkovic & Luthans (1998)	The self-efficacy refers to the degree of confidence in the individual's ability, which enables the individual to mobilize necessary resources in a specific environment to successfully accomplish a specific task.

Although the definitions of self-efficacy are different, their core ideas are the same. They all involve self-assessment of the individual's ability. We can find that the self-efficacy has the following two characteristics all the time: 1. The self-efficacy is related to a specific task or behavior, not a common quality existing in the individual behavior; 2. The self-efficacy is not a skill, but an individual's belief in his/her ability to accomplish certain behaviors, which belongs to individual cognitive factors. This study more tends to adopt the concept of self-efficacy proposed by Bandura (1986). The essence of self-efficacy is the degree of confidence in the individual's behavior

ability in a specific situation, namely, when facing a specific activity task, do you believe in yourself or to what extent do you believe that you have enough ability to complete the activity task.

2.3.2 Entrepreneurial Self-efficacy

Bandura held that the abilities and skills required are also very different due to the difference between different fields of activities, and a person's self-efficacy is different in different fields. The concept of self-efficacy is always related to specific fields, and the individual's self-efficacy for different activity tasks is different. This concept has been supported by many researchers (Eden & Kinnar, 1991; Riggs, Warka, Babasa, Betancourt, & Hooker, 1994; Tipton, & Worthington, 1984). Therefore, since the 1990s, self-efficacy theory has been introduced into entrepreneurial research and become an important variable for predicting entrepreneurial behavior and entrepreneurial success (Boyd & Vozikis, 1994; Chen & Greeneetal, 1998; Krueger & Reillyetal, 2000; Jung & Ehrlich, 2001; Drnovsek & Glas, 2002).

There are different opinions on the concept of entrepreneurial self-efficacy. Some representative examples are as follows: (1) Boyd (1994), Scherer et al. (1989) held that entrepreneurial self-efficacy refers to the belief intensity of individuals who believe that they can successfully play various entrepreneurial roles and complete various entrepreneurial tasks; (2) Krueger & Brazeal (1994) defined entrepreneurial self-efficacy as the characteristics of individual ability and control, which is conducive to transform failure perception into learning experience; (3) Chen et al. (1998) defined the entrepreneurial self-efficacy as the belief that individuals have the ability to successfully perform a series of special entrepreneurial tasks. Chen (1998) held that "the concept of self-efficacy is very suitable to be introduced into the entrepreneurship".

Entrepreneurial self-efficacy can more accurately predict the entrepreneurial behavior, performance and even maintenance of potential entrepreneurs. The relationship between entrepreneurial self-efficacy and behavior can be affirmed to the greatest extent when there is full of risks and uncertainties; (4) Luthans & Ibrayeva (2006) held that entrepreneurial self-efficacy "is the belief and confidence of entrepreneurs, specifically refers to the degree of confidence of entrepreneurs in influencing their environment and achieving success through corresponding behavior".

This study takes college students as the research object, because it is the concrete manifestation of individual self-efficacy in the entrepreneurship, namely, the belief that individuals can carry out tasks or activities related to entrepreneurship. Based on the definition proposed by Scherer (1989) and Boyd (1994), the college students' entrepreneurial self-efficacy was defined as the strength of beliefs that college students believe they can successfully adapt to various entrepreneurial roles and complete entrepreneurial tasks by virtue of their own abilities. Specifically, it mainly involves the following two aspects. For one thing, from the perspective of entrepreneurial roles, college students believe that they can adapt to various entrepreneurial roles; for another thing, from the perspective of entrepreneurial tasks, college students believe that they can complete entrepreneurial tasks by virtue of their own abilities.

2.3.3 Theoretical Meaning of Entrepreneurial Self-efficacy

After being introduced by scholars in the field of entrepreneurial research, the concept of self-efficacy is defined as a new term of "entrepreneurial self-efficacy", which is a new concept. With the deepening of entrepreneurial research, more and more attention has been paid to it. Scherer et al. (1989) defined entrepreneurial self-efficacy as the belief strength of a person that he/she can successfully play and fulfill the role of

entrepreneur. Luthans & Ibrayeva (2006) held that entrepreneurial self-efficacy "is the belief and confidence of entrepreneurs, specifically refers to the confidence of entrepreneurs in affecting their environment and achieving success through corresponding behavior". Entrepreneurial self-efficacy is a personal belief and confidence. It has the possibility of change and helps to determine how entrepreneurs will start their own businesses according to their own characteristics (such as knowledge and skills, etc.).

In the article "What lies beneath? The experiential essence of entrepreneurial thinking" published in "Entrepreneurship: Theory & Practice", the famous entrepreneurship scholar Krueger (2007) pointed out that: "the key to understanding the deep meaning of entrepreneurship is to explore the deep beliefs of cognitive structure, entrepreneurial attraction, entrepreneurial intention and entrepreneurial actions." As such a deep belief, self-efficacy is an important concept to reveal key entrepreneurial activities (Luthans et al., 1997; Krueger, 2000), for example, the role model only has an influence on entrepreneurial intention through the self-efficacy. In addition, self-efficacy is closely related to opportunity identification, risk taking (Krueger & Dickson, 1994) and career choice (Hackett, 1993; Bandura, 1986; Betz & Hackett, 1986), which can be adopted to predict entrepreneur's behavior choice, persistence and performance. The self-efficacy is considered to be an important prerequisite for entrepreneurial intentions due to the particularity of the environment and task areas facing entrepreneurs (Boyd & Vozikis, 1994; Krueger & Brazeal, 1994). Boyd & Vozikis (1994) modified Bird's (1988) entrepreneurial intention model, using basic beliefs as the source of the two thoughts and affecting attitudes, perceptions and self-efficacy, while self-efficacy directly affects entrepreneurial intention and behavior. This is

further reflected in the research of Krueger et al. (2000).

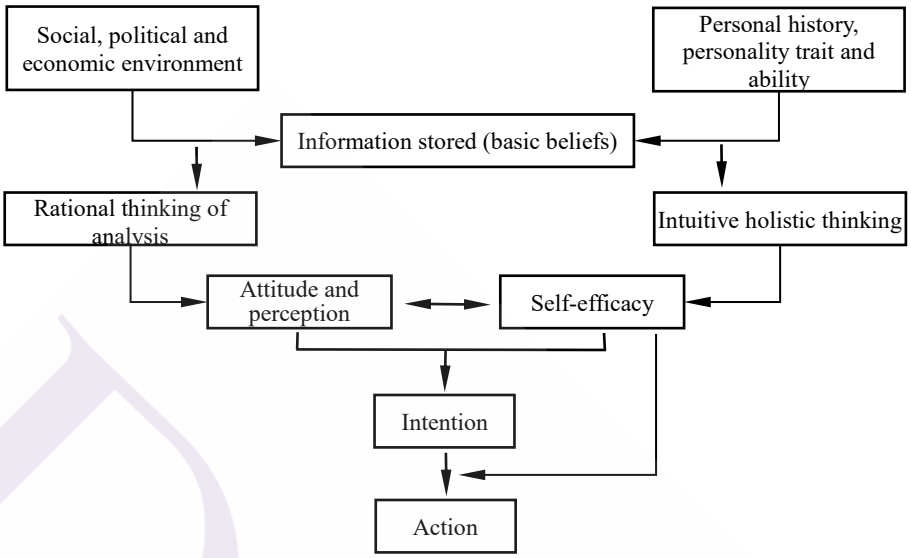

Figure 2.7 Boyd (1994)'s entrepreneurial intention model

On the basis of summarizing the previous researches, Chen et al. (1998) from University of Roters developed a five-point Likert-style "entrepreneurial self-efficacy scale", which can effectively distinguish entrepreneurs from non-entrepreneurship managers, and their research has been unanimously affirmed by many scholars, such as Baum & Locke (2004), Markman & Baron (2003), etc. Chen et al. (1998) pointed out four reasons why entrepreneurial self-efficacy is very suitable for the entrepreneurial research: 1. Early entrepreneurial "trait theory" researchers could not obtain the key psychological traits to distinguish entrepreneurs from non-entrepreneurs, because there was no specific restriction on the psychological traits they sought. Entrepreneurial self-efficacy is directly related to specific entrepreneurial tasks, so it can predict entrepreneurial behavior more effectively. 2. Entrepreneurial self-efficacy is an individual's confidence in his/her ability to choose the entrepreneurial

activities, so it has a broader meaning than single task effectiveness. This means that entrepreneurial self-efficacy should be relatively stable, but not eternal, and entrepreneurs can constantly acquire, weaken or enhance their entrepreneurial self-efficacy during the interaction with the environment. 3. Entrepreneurial self-efficacy is closely related to entrepreneurial motivation and behavior, so it can be adopted to predict the choice, maintenance and performance of entrepreneurial behavior. 4. The relationship between entrepreneurial self-efficacy and entrepreneurial behavior can be fully reflected in the dynamic environment full of risks and uncertainties, while the dynamic and complex entrepreneurial background has these characteristics.

Based on the research of Chen et al. (1998), De Noble et al. (1999a, 1999b) expanded the ESE model, and held that people with high entrepreneurial self-efficacy could see the opportunities, but people with low entrepreneurial self-efficacy could only see the costs and risks in the same environment; people with high self-efficacy can be more competitive than those with low self-efficacy in solving problems even if they feel the same uncertainties, risks and difficult environments. In addition, people with high self-efficacy also have different expectations of results from others. Jung et al. (2001) also found that different cultural backgrounds had a greater influence on people's entrepreneurial self-efficacy. However, the research Zhao et al. (2005) from University of Illinois further revealed the mediating variable between entrepreneurial self-efficacy (four factors of entrepreneurial course experience, entrepreneurial experience, risk propensity and gender) and entrepreneurial intention. Forbes's (2005) research proved that decision-making process has the positive influence on the entrepreneurial self-efficacy, and the exploratory research pointed out that entrepreneurial self-efficacy enhances the corporate performance.

The research results of Jung et al. (2001) verified an important conclusion of Chen (1998), De Noble (1999a, b) and Kruegeret et al. (2000) that: entrepreneurial self-efficacy directly and positively influenced entrepreneurial intention. Drnovsek & Glas (2002) and Luthans & Lbrayeva (2006) conducted validation and exploratory researches on entrepreneurial self-efficacy in countries with economies in transition in Eastern Europe and Central Asia, respectively, and their conclusions supported previous situational researches in Western countries. In a word, research on the entrepreneurship proves that: The formation of entrepreneurial intention and the success or failure of entrepreneurship are largely influenced by the difference of entrepreneur's individual entrepreneurial self-efficacy (e.g. Scherer, et al., 1989; Markman & Baron, 2003). Entrepreneurial self-efficacy is closely related to the social and cultural background (Jung, et al., 2001).

2.3.4 Measurement of Entrepreneurial Self-efficacy

De Noble, Jung, & Erhlich (1999) pointed out that entrepreneurial self-efficacy is a multidimensional variable due to the dynamic, complex and multidimensional entrepreneurial process experienced by entrepreneurs. For the moment, there is no consensus on the empirical research on the dimensions of entrepreneurial self-efficacy and constructive dimension of entrepreneurial self-efficacy, so this dissertation selects some representative measurement methods.

Bandura (1977) pointed out in his research that self-efficacy can be divided into three dimensions: ① In terms of amplitude, the self-efficacy within a specific field can be divided into the different levels according to the task difficulty, and different individuals will choose to complete the simple, moderately difficult or very difficult task due to people's difference in this dimension. ② In terms of strength, the

weak self-efficacy will be rejected due to being easily influenced by the inconsistent experience, the strong self-efficacy will not lead to the self-doubt due to the temporary failure, but will make people believe that they have the ability to achieve the final victory and then still not give up trying in the face of numerous difficulties. ③ In terms of universality, it refers to the scope of self-efficacy, various activity fields or some functional fields.

Lee (1994) pointed out according to Bandura's self-efficacy that the self-efficacy measurement shall be carried out according to the task or activity character in the specific field. In other words, the measurement shall be carried out for the entrepreneurial self-efficacy according to the particularity of the research field, so the measurement of entrepreneurial self-efficacy is the multidimensional measurement based on the difference in its field.

Chen et al. (1998) carried out the exploratory research of the dimension construction of entrepreneurial self-efficacy. They first determined 6 proper roles required by the entrepreneur and 30 key tasks to be completed through the investigation interview. And on this basis, they prepared the entrepreneurial self-efficacy measurement scale. After the trial testing and modification, the measurement scale has 22 measurement items and 5 dimensions - management, innovation, market, risk tolerance and financial control. The integrated internal consistency coefficient of the scale is up to 0.92.

To distinguish the entrepreneur from the manager better with the entrepreneurial self-efficacy measurement scale, De Noble, Jung & Erhlich (1999) extracted the core entrepreneurial skill which is different from the management skill through the investigation of the entrepreneur's entrepreneurial behavior and

entrepreneurial process, and developed the entrepreneurial self-efficacy scale on this basis. The number of measurement items is 35, and the measurement scale includes 6 dimensions, covering the core entrepreneurial skill: Opportunity recognition dimension, decision-making dimension, interpersonal relationship management dimension, resource acquisition and allocation dimension, risk management dimension, dimension of maintaining and developing innovative working environment. The integrated internal consistency coefficient of the scale is 0.74-0.94.

Based on the different stages in the entrepreneurial process and different entrepreneurial tasks and roles, Kickul & D'Intino (2005) put forward that the construction dimension of entrepreneurial self-efficacy scale shall include 4 aspects: Opportunity recognition efficacy dimension, management efficacy dimension, relationship efficacy dimensions, and risk tolerance efficacy dimension. Among them, the opportunity recognition refers to the individual's faith in its market opportunity recognition ability; the management efficacy dimension refers to the individual's faith in the economic and management ability; the relationship efficacy dimension refers to the individual's faith in its interpersonal competence; the risk tolerance efficacy dimension refers to the individual's faith in its effective work in the uncertain environment.

Forbes (2005) revised the original scale based on the entrepreneurial self-efficacy measurement scale developed by Chen & Greene & Crick (1998). They held that the number of dimensions can be reduced into 4: Management, marketing, financial ability, adventuring ability.

Kolvereid & Isaksen (2006) carried out the investigation with Norwegian entrepreneurs as the sample for trying to develop the entrepreneurial self-efficacy scale.

They designed the entrepreneurial self-efficacy scale into 4-dimension measurement scale, the number of measurement items is 18, and the dimensions include: Management, marketing, financial ability, adventuring ability.

Barbosa & Gerhardt & Kickul (2007) held that the entrepreneur is particularly important for the self-efficacy at the early stage of the entrepreneurial process. In their research, they added the self-efficacy at the early stage of the entrepreneurial process add the entrepreneurial self-efficacy scale, including 5 dimensions: Investor relationship efficacy, new enterprise management efficiency, uncertainty tolerance efficiency, opportunity recognition efficiency, entrepreneurial self-efficacy for investigating entrepreneurs.

Wilson et al. (2007) carried out the empirical research for the college students and developed the entrepreneurial self-efficacy scale. There are 6 questions. The subject is required to answer according to the actual situation after the contrast with surrounding classmates. It includes six question items - management, finance, persuasion, leader role, creativity and decision making. In combination with the research object, this study is carried out with this scale.

2.4 Career Adaptability

2.4.1 Concept of Career Adaptability

(I) Origin

The concept of "career adaptability" is first put forward by Super (1981), and it originates from the career maturity theory of Super. Super (1955) put forward that the use of career maturity to explain the individual's completion of task in the career development refers to whether the individual's career development adapts to the age

development. Then, it was replaced by the career maturity put forward by Crites (1965). It refers to the individual's career development rate and progress level (Crites, 1974). Super's career development theory takes the concept of "career maturity" as the core and emphasizes that the individual is under a changeless real environment; In other words, the individual is in a decided system when responding to career problem, and the future factor can be predicted (Guindon & Hanna, 2002). Obviously, such idea is inconsistent with the current rapid development era, which is because the substantive characteristic of career development includes unpredictability and uncertainty (Bright & Pryor, 2005) in the current society. Therefore, Super & Knasel(1981) put forward that the "adaptability" opinion is adopted to interpret the process of individual adjusting and responding to the possible crisis, the concept of "career maturity" is replaced by the term of "career adaptability". They held that the concept of "adaptability" highlights the individual's back reaction to the environment and no longer neglects the individual subjectivity. Such opinion is forward-looking and more positive (Rottinghaus, Day, & Borgen, 2005). Since then, the opinion of adaptability has the further theoretical construction. Savickas (1997) advocated replacing the "career maturity" with "career adaptability" and emphasized that the individual can use the flexible and effective method or strategy to meet and respond to the changeable environmental demands.

In a word, the "career adaptability" emphasizes the interaction between people and environment. Because people and environment are changing constantly, and the individual makes the initiative adjustment and response in the environment, thus seeking the harmony and balance with the environment (Savickas, 2005). Now, we are in the era of science and technology with rapid economic development, and the concept of "career adaptability" conforms to this changeable era. Therefore, the career

adaptability is more appropriate than the career maturity in explaining the individual's lifetime development course (Savickas, 2005, Rottinghaus et al., 2005).

(II) Concept overview

Savickas (2005) carried out the extension and supplement of the concept of career adaptability of Super (1981) and developed the theory of career adaptability. He put the career adaptability in the Super's "life span -life space" theoretical construction, took it as the core ability of all roles in integrating the career development, put forward the current most scientific concept of career adaptability with most recognitions, namely, "individual's coping readiness degree in facing the predictable task of preparing and participating in the work role as well as facing the unpredictable career problem in the work change or work environment" (Savickas, 1997). He put forward that the career adaptability shall consist of three parts: The "planned attitude", "exploration of ego and environment" and "adaptive decision" also can be called the self-adjustment strategy. Savickas (2005) further put forward that the career adaptability is a mental structure and means the individual's readiness degree and resource in facing the current and future career development task, career change and personal dilemma.

Through the literature review, part of career adaptability concepts is summarized into Table 2.3.

Table 2.3 Summary sheet of part of career adaptability concepts

Author	Year	Concept
Pratzner & Ashley	1985	It refers to the ability of individual to adapt to the work demand or change the work for adapting to the individual demand.
Isaacson & Brown	1993	The career adaptability may be the more appropriate term for determining the individual's ability in facing the pressure or accepting the changing career role.
Goodmanhe	1994	People complete the successful transformation in the different career stags or seek the balance in their work and environment.
Rottinghaus，Day & Borgen	2005	It refers to the adjustment of career plan made by the individual in facing the unforeseen event.
Baumeiste & Vohs	2007	It refers to the search (exploration) for available opportunity, prospect (planning) of the future, appropriate and valuable decision and handling of the conflict between psychology, interpersonal relationship, environmental factor, etc. and goal conflict. In a word, it is the self-adjustment.

It can be known from the above scholars' opinions that career adaptability is an important concept of personal construction career. It mainly emphasizes the interaction between individual and its living environment in the career development process and emphasizes the personal initiative of adapting to the environment. It mainly refers to the personal mental readiness and internal resources in facing the current or future career development task, career transition and personal setbacks, rather than behavior with adaptation as the purpose (Savicks, 2005). It adopts the self-adjustment course of career adaptability to shape the adaptive strategy and behavior and leads to the personal career success, satisfaction, stability and other adaptive goal and results (Savicks, 2005, 2009). Therefore, the career adaptability is defined as follows in this dissertation. It refers to the coping readiness degree and coping capacity of the college students for the predictable career tasks, career roles involved and career changes or

unpredictable career problems.

2.4.2 Career Adaptability Construction

(I) Super's career development construction

Super (1979) is one of the researchers who discuss the theoretical construction of career adaptability earliest. Super (1976, 1980, 1984, 1990) put forward the career development theory and corrected it constantly, and defined the career as follows: The career is the evolution direction and process of various events in people's life, including a person's all life roles (child, student, relaxer, citizen, worker, parents) in life. The life-career rainbow and archway model can be used to explain the three theories of Super (1990): Life span, life space and self-concept And Super (1990) put forward that the individual shall face these five processes in every stage of career development, thus forming the cycle of "growth - exploration - establishment - maintenance - decline".

Life span in Figure 11, the horizontal level represents the career span throughout the life and covers the main development stage, and every stage has its career development task. The sequence is as follows: (1) Growth stage (equivalent to childhood, before 14 years old), developing the self-concept, and knowing the surrounding environment especially working world through the experience; (2) Exploration stage (equivalent to adolescence, 15-24 years old), making the occupational preference reified and specialized, and realizing the occupational preference; (3) Establishment stage (equivalent to early adulthood, 25-44 years old), entering the occupational stable stage, integrative, steady and self-motivated; (4) Maintenance stage (equivalent to middle age, 45-64 years old), maintaining the existing achievements and status; (5) Decline stage (equivalent to old age, after 65 years old),

slowing down, free, retired. And Super put forward that the individual shall face these five processes in every stage of career development, thus forming the cycle of "growth - exploration - establishment - maintenance - decline".

Life space the longitudinal level represents the up-down life space, embodying the individual's life role in the different development stages. Super (1990) described six main roles: ① child ② student ③ relaxer ④ citizen ⑤ worker ⑥ parents People can play different roles at the same time, and the successive appearance or overlap of various roles as well as composite construction of different roles form the personal unique career type. Besides, there is interaction among roles, and there will be the most important role in every development stage, namely, "significant role". Fox example, the significant role is student in the exploration stage (15-20 years old) and worker in the establishment stage (25-30 years old).

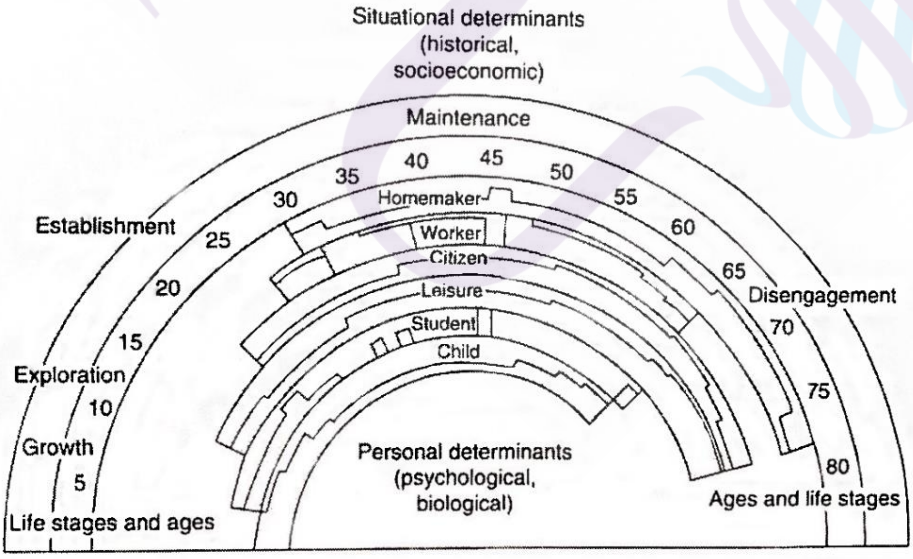

Figure 2.8 Super (1984) career development rainbow

Self-concept. Super (1990) created the life archway model and explained that how the physiological, psychological, and social and economic factors affect the individual career development. The design of archway model mainly explains the divisibility, uniformity and expansibility in the career development process. As shown in the figure, the individual (biographical) and environment (geographical) are the doorstep footstone; the left footstone of the archway is the physiological footstone, namely, individual life history. It supports the development of internal factor which influences the career development, such as demand, value, interest, intelligence, aptitude and special aptitude, and decides the achievements; the right footstone is the "geographical footstone". It supports the external factor which influences the individual career development, such as community, school and family, peer group, economic resources and labor market, and decides the employment. The individual career development is established based on the two footstones. Its internal psychological traits and external social factors will produce the interaction, gradually form the intermediate "role self-concept", and then develop into "ego", thus influencing the individual career. The intermediate is the overall characterization of ego, connects the arch of the left and right footstones, and dominates the individual career choice and development.

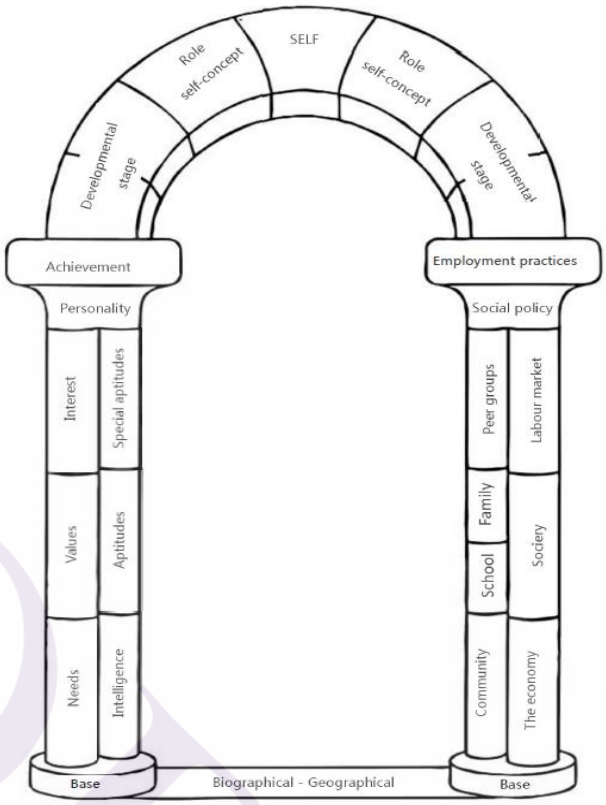

Figure 2.9 Super (1990)'s career archway model

The college students are in the exploration stage of career development theory of Super (1990). The exploration stage can be divided into tentative stage (15-17 years old) - gradual reification of occupational preference, transition stage (18-21 years old) - specialization of occupational preference, and test and commitment stage (22-24 years old) - realization of occupational preferences. There is a transition stage between every stage and next stage. When entering a new career development stage, the individual will start the new development cycle of growth, exploration, establishment, maintenance and decline, and the individual may enter the development cycle again at any time (Wu Zhiyi, 2003; Sharf, 2006). Therefore, it can be known from the career development theory of Super (1990) that the college students will still face a series of choices and adaptive process in the exploration stage, and every transition process

doesn't develop according to the inherent order, rather than is very flexible.

Construction of career adaptability Super (1981) corrected the construction of adult career adaptability and put forward a more complete "adult career adaptability model". This model has five dimensions, including planning, exploration, information, decision and reality orientation. Refer to the table below for details.

Table 2.4 Adult career adaptability model content abstract

Dimension	Content discussion
Planning	1. The individual can be independent and can be responsible for the plan in the process of making the education and career planning. 2. The planning will be influenced by the individual time perspective, which is embodied in the following: (1) In the exploration stage, the individual can have the reflective ability in the reification, specialization and practical experience of occupational preference; (2) The individual can have the examination ability in stabilizing, integrating and pursuing more progressive development business for the current and upcoming career development; (3) Looking forward to the future, the individual can continue to maintain the existing work achievements and even make innovation of them; the individual can have the foreseeing ability in the declining and retiring development task.
Exploration	1. The individual can put forward the related inquiries about the following two aspects: (1) Ego: Care for the individual development in the career stage and role played in the life space; (2) Environment: Know the organization development and individual life model in the life space from the perspective of the time. 2. The individual has some understanding of its own resources, and then has the ability to evaluate and be willing to use it. 3. The individual can participate in the affairs of family community.
Information	1. The individual can fully understand its traits, development task in the career stage, possible career path, how to realize these paths and possible results after the practice of plans. 2. In terms of handling the career problems, the individual can find various possible choices and cope with them correctly. 3. The individual can view the possible way in the future in terms of organization, work and occupational area.
Decision	1. The individual can master the knowledge and evaluation principle. 2. The individual can use the past way of making decision and current acquired experience.
Reality Orientation	1. The individual can make a deeper understanding of the personality trait and preference. 2. The individual can plan the future with the available resources. 3. The individual can keep the preference consistent with the passage of time. 4. The individual will prefer the ability of reification, thus making self-concept more explicit and goal more realistic. 5. The individual tries to stabilize the undecided work experience and continue to maintain the original work, thus achieving the career plan.

(II) Savickas's career adaptability construction

Savickas is another important figure in the theoretical construction in the field of career adaptability. The career adaptability theory was corrected and improved thrice (Savickas, 1997, 2002, 2005). At first, Savickas (1997) put forward that the career adaptability shall include three dimensions, planned attitude, exploration of ego and environment, and adaptive decision. Among these, the planned attitude is different from the planning in the traditional sense. The first step of making the career decision is to keep trying and learning rather than consider the future, which is because the individual's future career development route is unpredictable (Van Vianen, De Pater & Preenen, 2009). Then, Savickas (2002) corrected the theoretical construction of career adaptability, and added the career confidence dimension based on the three-dimensional structure. It refers to the individual's confidence and self-efficacy for the ability to solve the career problem. Finally, Savickas (2005) further perfected the theoretical construction of career adaptability and put forward a more complete construction model. Savickas (2005) divided the theoretical construction of career adaptability into three levels.

1. Highest level. It is the "abstract level" referring to the individual's coping capacity and resource in facing the career task, transition and other important career event. Its connotation is 4C model, namely, "career concern", "career curiosity", "career control" and "career confidence". The four dimensions correspond to four questions. Only when every question is solved, the career dimension can get development. The question of these four dimensions is as follows: "Do I have future?" (Career concern) "Can I have the own future?" (Career control) "What can I do in the future?" (Career curiosity) "Do I believe that I can do it?" (Career confidence). The individual career

adaptability develops constantly in these four dimensions. It is correlative among these four dimensions, and these four dimensions will be explained in combination with Table 5 below.

Table 2.5 Savickas (2005) career adaptability development vein summary sheet

Dimension	Career question	Attitude Faith	Ability	Career Question	Adaptive behavior	Career Intervention
Concern	Do I have a future?	Planned	Plan	Indifferent	Perception, input, preparation	Career guidance practice
Control	Who will own my future?	Certain	Make a decision	Uncertain	Confidence, organization and persistence	Decision training
Curiosity	What I want to do in the future?	Curious	Explore	Untruthful	Try, adventure, inquiry	Engage in the information search
Confidence	Can I do it?	Valid	Slove problems	Barrier	Persistence, efforts, diligence	Self-esteem building

(1) Career concern. Question to be solved by career concern: "Do I have a future?" The career concern refers to concern about the career development (Savickas, 2005). It is the first and most important dimension of the career adaptability. Its importance is embodied in that it is the basis of another three dimensions. The individual can concern about its own future career. If the individual doesn't concern about the career development, it is impossible to do all the rest. The career concern has the characteristic of future orientation. About the role of career concern in the individual career development, the research Nurmi (2002) indicates that the college students who concern about the future career development positively will take work most smoothly and adapt to the new workplace environment which is completely different from school. The lack of career concern is called the career apathy. It reflects the individual's lack of

future plan and passivism and pessimism.

(2) Career control. Question of career control: "Can I have my own future?". The career control is the individual's sense of control and firm attitude for future career. The individual shall try to balance the relationship between self and society independently and cope with the changes and challenges of social environment. It is the second important dimension in the career adaptability. It refers to that the individual believes that it can make a decision and undertake responsibility for the construction of self-career, that is, the individual has the sense of control for its own future career development. The lack of career control is called the "career indecision", namely, the individual can't make the proper career choice. When lacking the career control, the individual will be overcautious and indecisive in the face of future.

(3) Career curiosity. Question of career curiosity: "What I want to do in the future?" The curiosity is the original driving force of exploration and seeking knowledge. The self-exploration is a very important career development task in the individual growth process, especially for college students with the rapid spiritual development (Van, De Pater & Prcenen, 2009). It refers to that the individual has the curious attitude and is willing to make the positive attempt and exploration of the self and work world. The lack of career curiosity is called the "career untruthfulness", which will make the individual have the untruthful imagination of the work world and self, thus bringing the negative influence to the career development. The lack of career curiosity will lead to the lack of understanding of career world, and then make the individual have the unreasonable imagination of future career and self, which undoubtedly will produce the negative influence upon the individual development.

(4) Career confidence. The career confidence is described as follows: "I am sure that I can achieve the career goal". The career confidence actually is the embodiment of self-efficacy in the career field. The career confidence refers to the successful expectation of facing the career challenges and overcoming the obstacles. It is a self-efficacy of whether to make the career decision successfully. The lack of career confidence is called the "career restraint". It hinders the practice of individual role and goal attainment. When the individual has stronger career confidence, the individual can get rid of the current difficulties through efforts (Guo Benyu, Jiang Feiyue, 2003). In the social cognition career theory, the career confidence supervises and controls the development course of career awareness and career behavior, and it is the key factor of achieving the career goal.

2. Intermediate level. It includes the three factors of career adaptability (Savickas, 2002) The three factors include Attitude, degree of concern about career; Faith, degree of confidence in career; Ability, personal ability required by career development These three factors constitute the "ABC" model in the career field. This shall be a very important construction in the career theory. The intermediate level of career adaptability can adjust the four dimensions of abstract level and shape the behavior at the specific level.

3. The third level is the professional behavior, and it is the most specific level in the entire theoretical model. The professional behavior is related to the individual's coping in the career. The four dimensions, three core factors and a specific behavior constitute the career adaptability structure chart of Savickas (2005).

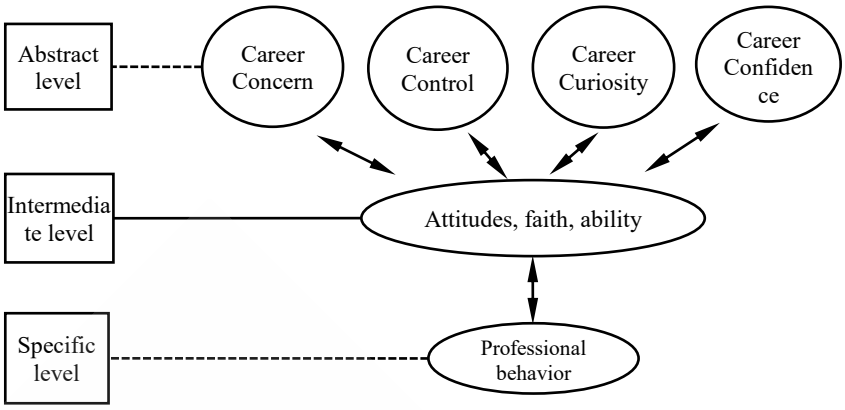

Figure 2.10 Career adaptability structure chart of Savickas (2005)

With the structural model of career adaptability, Savickas (2005) found that when the individual has the following characteristics, the development level of career adaptability is higher: (1) The individual can concern about its future career actively; (2) The individual believes that it can control the future life and work; (3) The individual keeps the curiosity and explores its future development direction constantly; (4) The individual has the strong confidence in achieving the future career goal and even in facing the career dilemma. Table 2.5 clearly shows the four dimensions of career adaptability and question, attitude, faith and ability of every dimension and the table also includes the dilemma caused by poor development of four dimensions and corresponding positive career intervention strategy.

The construction of career adaptability of Savickas (2005) is an effective method of evaluating the individual career adaptability. It can evaluate the development of individual adaptability in terms of degree and rate. Or the theoretical construction of Savickas's career adaptability provides the theoretical support and specific ruler for the career adaptability measurement and evaluation made by the subsequent researchers (Hoekstra, 2011). More important, it also provides a three-dimensional conceptual

framework for the career intervention and effectiveness, with greater practical value (Hartung, Porfeli, & Vondracek, 2008). The subsequent researchers most use Savickas's theoretical construction in the measurement of career adaptability.

2.4.3 Measurement of Career Adaptability

(I) Dimension of career adaptability

The measurement method and dimension of career adaptability are different due to the different research methods and concept definitions. Through the literature review and summary, this study-related and international more commonly-used quantitative research and measurement dimension of career adaptability is selected. This study selects part of examples.

Table 2.6 Summary sheet of part of career adaptability dimensions

Author	Year	Dimension
Savickas	2005	Career concern, career curiosity, career confidence, career control
Ployhart	2006	Crisis management, working pressure, creative problem, interpersonal adaptability, learning adaptability, uncertainty management, cultural adaptability, the physical adaptability
Savickas	2009	Career concern, career curiosity, career confidence, career control, career cooperation
Hirschi	2009	Career decision-making, career planning, career exploration, career confidence
Creed et al.	2009	Career decision-making, career planning, career exploration, career adjustment
Hou	2012	Career concern, career curiosity, career confidence, career control

The scholars have many measurement scales about career development and career adaptability. In recent years, the empirical research related to the career adaptability shows that the preparation of measuring tool is most established based on the theoretical construction of Savickas (1997, 2005 & 2009). Upon comparison, the career concern, career curiosity, career confidence and career control four-dimension scale is adopted by most scholars.

(II) Measuring tool of career adaptability

1. Savickas's Career Adaptability Scale

Savickas put forward three dimensions of career adaptability in 1997, namely, planned attitude, exploration and adaptive decision. Upon the comparison of the relationship between three dimensions and structural model of career adaptability put forward by Savickas (2005), it is found that the "planned attitude" and "career concern" refer to the degree of individual attaching importance to and being willing to plan the future career; the "exploration" and "career curiosity" refer to the degree of individual's exploration and input of career activities; the "adaptive decision" refers to the individual's ability of elasticity and flexibility in coping with various decisions and problems in the career, and the "career confidence" also attaches importance to the ability of solving problems, and includes the individual's career self-efficacy. Therefore, it can be found that the career adaptability structure of Savickas (1997) lacks the construction of "career control".

Savickas (2005) put forward the theory of career adaptability and recommended to use the career maturity scale (Crites & Savickas, 1996), career development scale (Savickas & Hartung, 1996), career self-efficacy decision scale and career faith scale to measure the career adaptability. Some researchers also adopt the

way of using different scales for measurement to measure the career adaptability (Hirschi, 2009).

2. Rottinghaus's Career Future Prospect Scale

Rottinghaus et al. (2005) prepared the career future prospect scale with 690 college students as the research object. There are three scales, including 11 questions about career adaptability, 11 questions about career optimism and 3 questions about the work world. The variance explanation rate is 24.89%, 10.09% and 4.62% respectively, and the common variance explanation rate of three scales is 39.6%; Cronbachα value is 0.73- 0.87, the retest reliability is 0.63 - 0.85, which shows that the scale has excellent consistency and stability.

3. Ployhart et al. (2006)'s Personal Adaptability Questionnaire

The measurement of personal adaptability of Ployhart et al. (2006) is prepared based on the eight-dimension structure of adaptive performance of Pulakos et al. (2000). The scale has 55 items, including 6 items about crisis management factor, 5 items about work pressure coping factor, 5 items about creative question solving factor, 7 items about an interpersonal adaptability factor, 9 items about learning adaptability factor, 9 items about uncertainty handling factor, 5 items about cultural adaptability factor, and 9 items about physical adaptability factor. The scale is Liken 5-point scale, and the data analysis indicates that the questionnaire has a clear structure and better reliability and validity, meeting the requirements of psychometrics.

4. Creed College's Student Career Adaptability Scale

The establishment of the dimension structure of the career adaptability questionnaire of Creed, Fallon & Hood (2009) is based on the opinions of Savickas (1997) & Karoly (1993), that is, the dimension structure of career adaptability includes:

Career planning, career exploration, self-exploration, career decision-making and self-adjustment. Among it, (1) the sub-questionnaire of career planning is taken from the career thinking and planning dimension in the career success (Greenhaus, 1971) questionnaire. It is adopted to evaluate the individual's career planning degree. Liken five-point scoring is adopted, and the internal consistency reliability of the questionnaire is 0.74; (2) the career exploration and self-exploration sub-questionnaire is taken from the two sub-questionnaires of the career exploration questionnaire (Stumpf, et al., 1983). One of them is the career exploration sub-questionnaire of 6 items, and another is the self-exploration sub-questionnaire of 5 items. The questionnaire adopts Liken five-point scoring, and the internal consistency reliability of the two questionnaires is 0.91 and 0.83 respectively; (3) the career decision-making questionnaire is taken from the career indecision sub-questionnaire of 16 items in the career decision-making questionnaire of Osipow (1987). The questionnaire adopts Liken 5-point scoring, and the internal consistency reliability of the questionnaire is 0.90; (4) the self-adjustment questionnaire is the self-adjustment questionnaire of 21 items prepared by Neal & Caret (2005). The questionnaire adopts Liken five-point scoring, and the internal consistency reliability of the questionnaire is 0.87. It can be found from the analysis of confirmatory factor that the data model supports the second order model of career adaptability constituted by above five factors.

5. Hou Zhijin's Career Adaptability Scale

Savickas (2012) carried out the multinational empirical research in 13 countries around the world, and revised the scale made in 2005, forming CAAS-R. The professor Hou Zhijin from School of Psychology of Beijing Normal University participated in this research, undertook the investigation and verification of CAAS in

China, namely, Chinese version career adaptability scale (CAAS-China) (Hou, Leung, Li, Li, & Xu, 2012). The Chinese version of career adaptability scale developed based on Savickas's "4C" theoretical model is adopted to carry out the questionnaire survey for 296 college students, and the confirmatory factor analysis results indicate that such model is also applicable to Chinese college students (Hou Zhijin, 2012). The Chinese version scale consists of four dimensions - career concern, career control, career curiosity and career confidence. There are 24 items, with 6 for each dimension. Likert five-point scoring method is adopted. The total score of CAAS-International is 0.92, which is higher than that of subscales of concern degree (0.83), control ability (0.74), curiosity (0.79) and confidence (0.85).

According to the research content and characteristics, this study is carried out with the career adaptability scale of Hou Zhijin (2012) in this dissertation.

2.5 Perceived Career Barrier

2.5.1 Concept of Perceived Career Barrier

(I) Career barrier

Crites (1969) is one of scholars who put forward the career barrier concept earliest. He held that the career barrier refers to the internal conflict and external setback encountered by the individual in the career development course. He divides the career barrier into internal barrier (e.g. self-concept) and environmental barrier (e.g. workplace discrimination) factor, and this definition is widely adopted by related scholars later. Based on the summary of predecessors' achievements, Swanson & Tokar (1991) held that the career barrier implies the event or scenario (Lent, Brown, & Gail, 2000) bringing difficulty to career development of the individual or external

environment, and divided the career barrier into the following: career barrier Social interpersonal factor (e.g. multiple roles work obligations and migration), attitudinal factors (e.g. self-concept and attitude) and interactive factor (e.g., discrimination and lack of qualified) (Swanson, Woitke, & Mary, 1997).

(II) Perceived career barrier

The research of career barrier is more discussed from the perspective of individual perception, which is because the barrier factors can produce the influence upon the career development only when it is perceived by the individual. If it fails to be perceived, it can't be called the "career barrier". In this sense, the term of perceived career barrier is more reasonable and appropriate.

Swanson & Tokar (1991) first put forward the perceived career barrier, and divided it into: Background/environment, attitude/mentality, society/interaction barrier. Swanson et al. (1997) further made the following concept definition of the perceived career barrier from the different perspectives based on the social cognition career theory: 1. Personal or environmental factor influencing the self-efficacy and outcome expectation; 2. Personal or environmental factor of having the moderating role upon interest and choice; 3. It is equal to the self-efficacy; 4. It is equal to the outcome expectation (Brown, Lent, 1996). And definition of these concepts depends on the different type of barrier. Hall (1997) pointed out that the barrier includes the disability, change (e.g., new work, working environment), conflict, discrimination, expected value, job requirements and other negative effects of positive events. The career barrier may be from the individual, working environment or interaction between them. Holland, Gottfredson & Power (1980) also pointed out that the external environment or individual psychological barrier factors will influence the quality of making the career

decision. If the individual has the clear intention for its life goal, interest and talent, it will not encounter difficulty when making the decision. Albert (1999) held that the perceived career barriers refer to the barriers related to the career at present or in the future, but not necessarily rely on the realistic background or real information. Though these barriers have no basis in reality, they have the direct influence upon the individual's career decision. This definition emphasizes that career barrier is the individual's perception and evaluation on factors that have a negative influence on his/her career development. This evaluation is subjective, rather than objectives and these factors have an actual influence on individual cognition, emotion, and decision-making behavior (Wu Xuemei, 2006). Lent, Brown & Hackett (2000) held that the perceived career barrier is the negative environmental influence, and such environmental barrier is related to the adverse individual factor in terms of function. For example, the poor learning conditions can reduce the self-efficacy.

Through the above literature review, it can be found that the western academia has not reached an agreement about the definition and structure of perceived career barrier, and even gives the different definitions from the different perspectives, but emphasizes the personal factor and environmental factor and attach more and more importance to the individual subjective factor. In some researches, some scholars directly equate the career barrier to perceived career barrier and emphasize the subjective factor. The perceived career barrier appeared in the following text of this dissertation is equal to the career barrier, and both refer to the subjective perception barrier. Combined with the actual situation of research objects and by referencing to Albert's definition of perceived career barrier, this dissertation defines college students' perceived career barrier as: unfavorable factors that individuals feel or perceive or may

encounter in the future that will have a negative influence on their career development. It emphasizes the subjective cognitive factor more.

2.5.2 Related Research about Perceived Career Barrier

From the historical perspective, the research about perceived career barrier has been lacking the consensual theoretical basis, and more representative theory includes Gottfredson's career ambition theory and London's career barrier coping model.

(I) Gottfredson's career ambition theory

Holland Gottfredson & Power (1980) also pointed out that the external environment or individual psychological barrier factors will influence the quality of making the career decisions. If the individual has the clear intention for its life goal, interest and talent, it will not encounter difficulty when making the decision (Chen Liru, 1994).

The restriction and compromise theory of Gottfredson (1981) mentioned that the "compromise" refers to the process of giving up the favorite work choice when controlling the choice due to cooperation with his/her own and external conditions or encountering the barrier in achieving aspirations in the favorite work choice. It can be known that the career development may restrict the individual's choice range due to the barrier, and then limit the individual development, so that the individual's aspiration can't be realized, so it is of great significance to understand the career barrier.

Swanson & Tokar (1991b) held that the past research lacked the systematic comprehensive evaluation and ignores the barrier factor caused by the gender difference, and the dichotomy of internal and external factors can't represent all career barrier factors, so they carried out the systematic career barrier research, rather than discussed the career barrier only against the single specific ethnic group. The research sorted out

that the ordinary college students have 18 career development barrier factors, including gender discrimination, multiple role conflict, children's interference, age and ethnic discrimination, no support from an important person, etc.

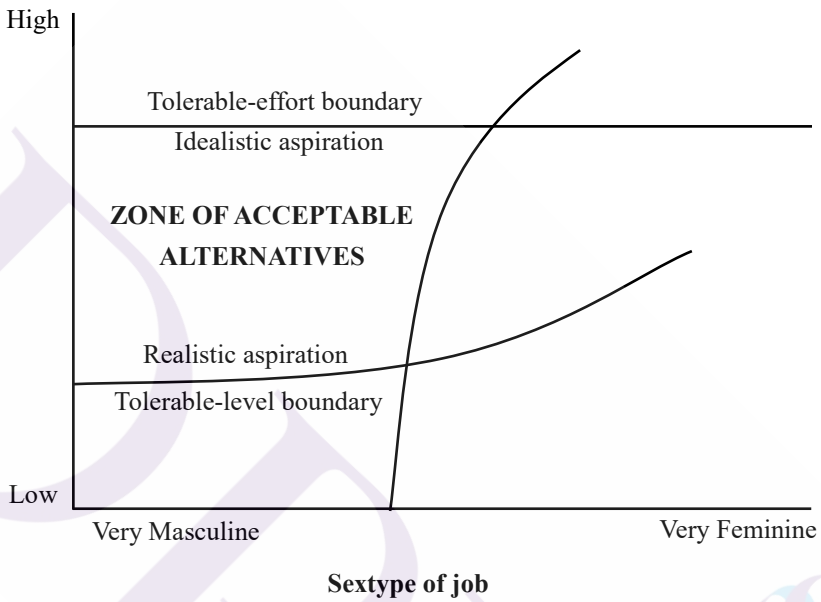

Figure 2.11 Gottfredson (1981) career ambition theory diagram

(II) London (1997) Career Barrier Coping Model

London (1997) held that the strength of emotion and awakening caused by the enhancement of career barrier will be different in the in the career barrier coping model. The strength of emotion will influence the individual cognitive appraisal and the information processing way, and the emotional and cognition will influence the individual's attribution of failure or setback and how to evaluate and cope with a scenario, and then influence the processing strategy. Among them, if the individual has higher resilience and support, it will help it make the correct and reasonable evaluation and urge it to use the constructive coping strategy. Otherwise, with low resilience and

support, the individuals will make incorrect and resistant comments, and select the destructive and dysfunctional countermeasures. In addition, the constructive countermeasures will enable the individual to inspect the activities and learn from experience to overcome career barriers, while the destructive and dysfunctional countermeasures will continue their career barriers. This shows that the resilience and the supports accepted by individuals from the environment are connective, both of which can assist in overcoming barriers and restraining negative influences.

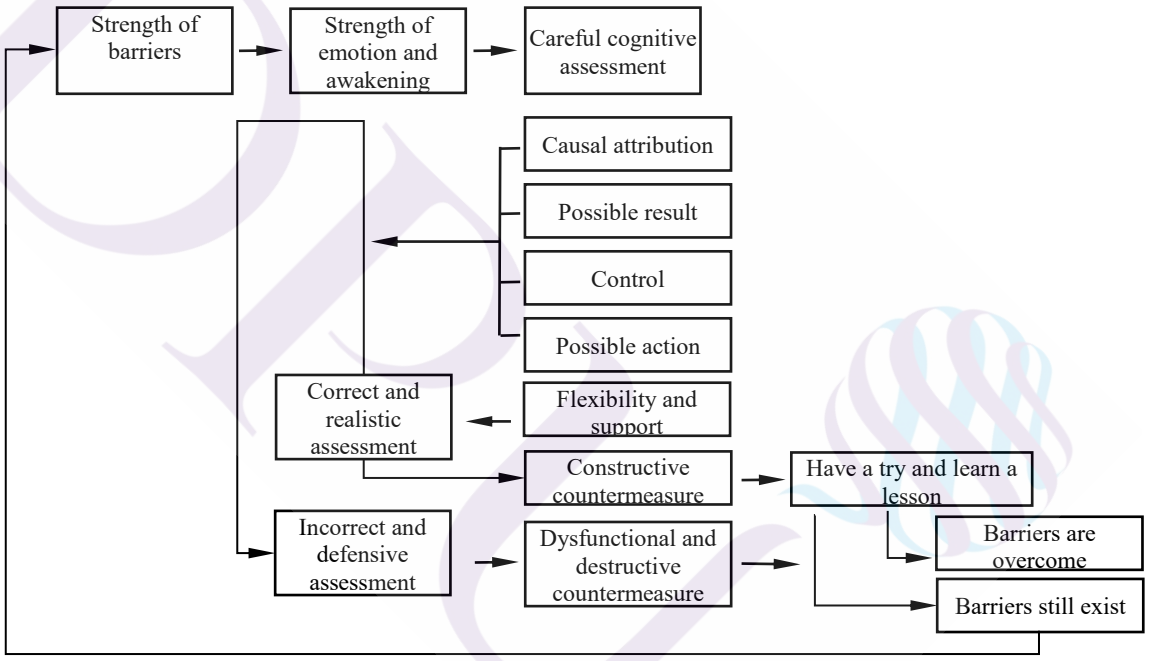

Figure 2.12 Response model for career barriers (London, 1997)

2.5.3. Measurement of Perceived Career Barrier

(I) Classification of career barrier factors

As for the dimension construction of perceived career barrier, there has been a unified theory model and structure dimension in the existing researches. The

researchers obtained the perceived career barrier factors of different component and quantity regarding to different subjects. After sorting out the literature and summarizing the research results of the predecessors, the author summarizes the dimension divisions of the perceived career barrier research as follows:

Table 2.7 Summary table of career barrier factor division

Classification method	Author	Year	Sample	Dimension division
Dichotomy	Crites	1969	Incumbents	Inner barriers: Personal motivation, self-concept, husband and wife being employed, role conflict, role load, etc. External barriers: Such income, discrimination, attitude toward women, etc.
	O'Leary	1974	Incumbents	Inner barriers: Fear of failure, fear of success, low self-esteem, role conflict, perception for vocational prospects, expectation -related value External barriers: Gender role stereotype, attitude toward female managers, attitude towards women's working ability, men-oriented management
	Farmer	1976	Incumbents	Inner barriers: Self-concept barriers External barriers: Environment barriers
	Harmon	1977	Incumbents	Psychological barrier Social barriers
	Fitzgerald & Weitaman	1992	Female	External barriers: Including the gender discrimination, unequal pay for equal upon the selection, promotion and evaluation of leadership, being asked to leave because of childbirth, and technology load, etc.
	Betz	1996	Incumbents	Inner barriers: One's psychological stress when facing multiple roles Environment barriers: Including gender stereotype, occupational stereotype, gender and race discrimination, lack of encouragement and support environment
	McWhirter	1997	College students	Personal/social barriers: Including the role conflict, low self-esteem, low self-efficacy, low success bottleneck period, etc. Internal factors: Race, gender, economic condition, family External factors: Ability, interest, and matching attribute
	London	1999	Incumbents	External factors: Organizational environment barrier, special barrier in an industry, organizational behavior barrier, gender and race discriminations. Internal factors: Personal physiology and psychology ability, motivation and behavior, insufficient experience and training
	Luzzo, McWhirter	2001	College students	Occupational barrier: Gender and race Education barrier: Gender, race, family, economic condition

Table 2.8 Summary table of career barrier factor division（Continued）

Classification method	Author	Year	Sample	Dimension division
Trichotomy	Sobol	1963	Female	Family factors: Future childbirth plan (including number of children and childbearing quantity age) Facilitation condition: Education background and working experience Promotion condition: Including personal attitude and economic condition
	Nieva & Gutek	1981	Female	Background characteristics: Race, age and education degree Personal attitudes: Personal attitude toward work and parents Context factors: Husband, children, and women's migration due to job.
	Swanson & Tokar	1996	College students	Background and context factors: Gender, age and race discrimination, gender role conflict, and education training background Personal/psychological factor: Intrinsic interest, less confidence, uncertainty toward the future, dissatisfaction for career, no skill in finding a job Social/interpersonal factors: Including the influence from the original and future families, interference from children, and less support from the companion
Multiple Classification	Russell & Rush	1987	Female	Appropriateness of management characteristics, family/social concerns, resistance of working environment, inadequate education background and work experience, special care for women, and the resistance of future subordinate
	Swanson & Tokar	1991b	College students	Occupational self-concept, role conflict between work and family, differential treatment, lack of encouragement and support
	Lent et al.	2002	Incumbents	Economic problem, role conflict, personal adjustment problem, poor problem-solving ability, negative social/family influence, negative school/work experience
	Shelila	2004	IT college students	Improvement of recruitment condition, fluctuations in the economic environment, gender
	Smith	2004	IT college students	Career selection: Barrier in career decision-making Job finding: Employment barrier Job performance: Barrier in the process of career development Balance between career and family: Conflict between career and family roles

(II) Measuring tool

1. Swanson & Tokar (1991) Career Barrier Factor Scale

The most authoritative tool of measuring the career barriers is the Carrier Barrier Scale prepared by Swanson & Tokar's (1991a), which is adopted to measure the career barriers perceived by individuals. This scale has 112question items and includes 18 subscales. This scale adopts Likert's seven-point form,"1" indicates "very unlikely", "7" indicates "very likely" This scale designs six stimulation items and three dimensions, takes 48 male and female college students as objects, find out the career development barrier factors for general college students by the way of brainstorming, Six stimulation items include: 1. Employment, career choice; 2. The first job after graduating; 3. Work behavior; 4. Discrimination related to employment; 5. Role in family and career; 6. Barrier items associated with women. Three dimensions include: 1. Social and interpersonal barriers; 2. Attitude barrier: 3. Personal background and environment interaction barrier after the brainstorm, 112 barrier items are obtained as the trial test objects. Then 58 subjects are selected to undergo the trial test, and 18 subscales are divided according to the analysis result of principal component factors. Including gender discrimination, less confidence, multiple role conflict, interference from children, age and race discrimination, gender role conflict, inappropriate experience or training, no support from an important person, uncertainty toward the future, no decision or insufficient information, dissatisfaction for career, resettlement, no skill in finding a job, overly saturated job market, uncertainty for marriage and childbirth plans, less support from the companion, no encouragement about entering the non-traditional learning field, and poor physical condition. Swanson & Tokar (1991b) and CBI measured 558 college students, and found that the career barrier factors are different

between male and female students.

2. Swanson & Daniels (1996)'s Career Barrier Factor Scale

Swanson & Daniels (1996) held that the original scale has too many dimensions, then made revisions based on it, forming a revised career barrier scale. The original scale was revised into thirteen subscales, including gender discrimination, lack of confidence, multiple role conflict, conflict between children and work, race discrimination, poor preparation, disapprobation by others, choice difficult, job dissatisfaction, trouble about non-traditional career, health problem, professional market restrictions, difficult work adaption. CBI-R revised the original scale which focuses on the female into the scale which is applicable to both the male and female. The revised scale includes 13 subscale, and 70 question items. The subjects shall answer "the possibility for each barrier they will encounter in the future" in Likert's seven-point scale,"1" indicates "very unlikely", "7" indicates "very likely".

3. Luzzo (1996)'s Open Questionnaire

Luzzo (1996) adopted the open questionnaire in the research, including two questions: a. what career-related barriers did you experience? b. do you think what career barriers you will encounter when you realize the career aspirations in the future? Barrier codes include number and type of barriers. Barriers include disorders related to the family, such as family balance work responsibility: Learning skill barrier, race barrier, gender barrier, economic barrier, age barrier.

4. "My Occupational Situation" Scale of Holland

Holland (1997) held that the quality of the decisions made by those students who are uncertain or dissatisfied toward the career is significantly related to the decision-making difficulties what they expected. They prepared a scale to evaluate the

difficulties of the career recognition and career decision-making. Holland, Gottfredson & Power (1980) held that the difficulties encountered when making decision on personal career are mainly resulting from the problem of career recognition, lack of information or training, environment or personal barrier. Therefore, this scale includes three subscales, namely recognition, information, and barrier subscales. There are two sources for these three scales, namely: Career decision-making difficulty scale and recognition scale. The dimensions of career decision-making scale include career information demand, barriers and restrictions, ability information demand, conflict among various career choices, decision-making difficulties and frustrations, as well as and impractical career expectation; while the dimensions of recognition scale include self-stability, self-clearness, awareness of appropriate information, as well as prediction for the form of future career.

5. Career Barrier Response Scale of McWhirter

The career barrier response scale was prepared by Mcwhirter (1997), which includes 28 question items. The subjects are asked "to evaluate the confidence on overcoming the following potential career barriers", and the scale adopts Likert's five-point form, "5" indicates "highly confident", "1" indicates "not confident", and the higher score means the higher confidence on overcoming the carriers.

McWhirter (2001) revised the original scale, so that it is more suitable for measuring the career barrier of college students. This scale includes 24 question items. This scale adopts Likert's five-point form,"5" indicates "very satisfied", "1" indicates "very dissatisfied", and the higher score means that more barriers are perceived. This scale includes two dimensions and 32 questions, which are the empirical research conducted for the college students. In this dissertation, the research objects are college

students, who are close to the respondents of this scale, so the author adopts the scale to carry out the research.

2.6 Section VI Relationship between Variables

2.6.1 Entrepreneurial Self-efficacy and Entrepreneurial Intention

Entrepreneurial self-efficacy is a new concept emerged after the self-efficacy was introduced into entrepreneurial research. The reason why self-efficacy theory is focused on the entrepreneurship research field is that it integrates the internal (individual) and external (environmental) factors, which are closest to behavior and behavioral intention, therefore, the theory is considered to be very suitable for entrepreneurship research. The so-called entrepreneurial self-efficacy means the individual's subjective judgment or perception toward the entrepreneurial success (Kickul et al., 2008). Boyd & Vozikis (1994) found that, entrepreneurial self-efficacy plays a very important intermediary role in the entrepreneurial behavior of individuals within a short period. Their research shows that entrepreneurial self-efficacy can influence the generation of entrepreneurial intention, and then influence the possibility of generating new enterprises. Drnovsek & Erikson (2005) classified entrepreneurial self-efficacy to expectation-related factors, and thought that entrepreneurial intention is generated under the common action of the expectation-related and non-expectation-related factors, both of which influence the entrepreneurial intention directly and indirectly through the entrepreneurship objects. Urban (2006) took multi-ethnic South Africa as the research background, and discussed the influences of cultural values and entrepreneurial self-efficacy on entrepreneurial intentions, showing that the latter has the significant influence on entrepreneurial intention. In the entrepreneurship

preparation behavior formation model, Sequeira (2007) discussed the mechanism that social network relationship and entrepreneurial self-efficacy influence entrepreneurial intention and entrepreneurship preparation behavior. The results show that the strong relationship support and entrepreneurial self-efficacy of individuals are conducive to strengthen entrepreneurial intention of individuals, and contribute to entrepreneurship preparation, because the strong relationship of individuals can provide them with spiritual supports; while the weak relationship support, business knowledge and experience are conducive to implement the entrepreneurship preparation, but cannot enhance entrepreneurial intention of individuals. Chen et al. (1998) adopted five-dimension entrepreneurial self-efficacy scale developed by themselves to carry out a questionnaire survey toward MBA students, entrepreneurs and business managers. The data regression analysis results show that entrepreneurial self-efficacy can predict the entrepreneurial behavior, performance and even maintenance of potential entrepreneurs more accurately. According to the investigation on the entrepreneurial self-efficacy of 217 patent holders carried out by Markman et al. (2005), the higher the entrepreneurial self-efficacy level is, the higher the entrepreneurial enthusiasm will be.

This study, based on the theory of planned behavior of Ajzen (1991), suggests that the perceived behavior control in the theory of planned behavior can influence behavioral intention direction. The college students' entrepreneurial self-efficacy in this study refers to the belief that college students can accomplish their tasks or activities related to entrepreneurship, and the perceived behavior control is the individual's perception of how easy or difficult it is to perform a particular behavior (Ajzen, 1991). Therefore, this study regards college students' entrepreneurial self-efficacy as a kind of perceived behavior control. Entrepreneurial intention is a kind of behavioral intention.

In addition, the theory of planned behavior (TPB) model revised by Krueger, Reilly, & Carsrud (2000) suggests that self-efficacy is the antecedent variable of perceived behavior control and can influence entrepreneurial intention through the perceived behavior control. According to the above inference, therefore, it can be inferred that college students' entrepreneurial self-efficacy has a direct influence on entrepreneurial intention, and the research hypotheses are proposed as follows:

Assumption I: College students' entrepreneurial self-efficacy has the significant positive influence on their entrepreneurial intention;

2.6.2 Entrepreneurial Self-efficacy and Career Adaptability

Career adaptability is a concept proposed by Savickas (1997), which means "individual preparation in face of the changes in anticipated work tasks and unexpected work situations at the career development stage". Its main connotation includes planning attitude, self-exploration and environmental exploration, and clear decision-making competence. Career adaptability plays an important role in making career decision. The individuals who have better career adaptability are willing to carry out the positive attempt and exploration.

Entrepreneurial self-efficacy is a kind of career self-efficacy, the researches show that career self-efficacy can influence career exploration, career commitment, career attitude, etc., while the career exploration, career commitment and career attitude are the important variables in the abstract level and intermediate level of building the career adaptability model, and influence the career adaptability directly. Blustein (1989) took the male and female students as research objects to discuss the relationship between career self-efficacy, goal stability and career exploration. The research results show that, compared with goal stability, career self-efficacy can predict the individuals'

career exploration behavior more effectively. The higher self-efficacy is, the higher the career exploration intention will be, and the wider the career exploration range will be. Career attitude is one of intermediate levels of personal career adaptability, which can adjust the function of career adaptability, and also shape the specific behavior of personal adaptability (Savickas, 2005). Luzzo (1993) selected 233 male and female college students to discuss the effect of career self-efficacy on predicting the career decision attitude and career decision skills, showing that the career self-efficacy can predict career decision attitude. Niles & Sowa (1992) found that career self-efficacy has a significant influence on career commitment. In the research on career self-efficacy and career commitment, Niles & Sowa (1992) took male and female college students as the objects, showing that the career self-efficacy has a significant influence on career commitment. Yang et al. (2015) found that career self-efficacy can produce the positive influence on career adaptability.

According to the above literature, it can be inferred that the level of career self-efficacy influences career adaptability directly. Entrepreneurial self-efficacy is a part of career self-efficacy; therefore, it is inferred that entrepreneurial self-efficacy can influence career adaptability, and the research hypotheses are proposed as follows:

Assumption II: College students' entrepreneurial self-efficacy has the significant positive influence on career adaptability.

2.6.3 Career Adaptability and Entrepreneurial Intention

In terms of individuals, the entrepreneurship is an optional career development path, so the individual entrepreneurial intention certainly will be influenced by the individual career development belief, attitude and ability. From this perspective, the "career adaptability" provides a new perspective for the entrepreneurial

psychological research and practice intervention. Zhao (2010) pointed out that the career adaptability has three typical characteristics: The first one is the ability which can be cultivated, which is embodied by the career difficulty or crisis; the second is the ability which can help the individual "make progress"; the third is the results of interaction between individual and environment. The empirical research on the individual career development reveals that the career adaptability can help the individuals realize the career conversion and solve the career difficulty (Keller & Whiston, 2008; Koen, Klehe, Van Vianen, Zikic, & Nauta, 2010). It presents the significant positive correlation with the individual employment ability (De Guzman and Choi, 2013) and can predict the individual subjective career success effectively (Zacher, 2014). The existing researches reveal that as an important psychological resource, the career adaptability is the powerful guarantee for the individual to receive the healthy development, obtain the work performance and acquire the individual career success in the current changing times. The empirical research carried out by Liang Minghui and Yi Lingfeng (2017) reveals that the college students' career adaptability can directly predict the entrepreneurial intention, the positive career concern is the key factor for the college students to comprehend and internalize the "entrepreneurial role" and then enhance the entrepreneurial self-efficacy and entrepreneurial intention, the career adaptability is the important psychological resource of influencing the formation and development of the college students' entrepreneurial intention, and the integration of the career adaptability development into the entrepreneurial education of our country's colleges will help the college students improve the entrepreneurship awareness.

Ajzen (1991) held that behavior attitude is an important antecedent variable of behavioral intention. Career adaptability refers to attitudes, beliefs, and abilities

required to develop career concern, career control, career curiosity and career confidence (Savaks, 2005), while behavioral attitude means an individual's assessment of behavior and his or her preference for performing a particular behavior (Ajzen, 1991). That's why this study regards career adaptability as a kind of behavioral attitude. This study considers entrepreneurial intention as a kind of behavioral intention. Therefore, it can, based on the theory of planned behavior, be inferred that career adaptability can influence entrepreneurial intention. In summary, the research hypotheses are proposed as follows:

Assumption III: College students' Career adaptability has the significant positive influence on entrepreneurial intention;

2.6.4 The Relationship between Career Adaptability and College Students' Entrepreneurial Self-efficacy and Entrepreneurial Intention

Career adaptability is "individual coping readiness for predictable career tasks, the career role involved, and in face of the change in career or the unpredictable career problems in career situation" (Savickas, 1997). It has the ability to "advance" individuals (Zhao Xiaoyun, 2010). Van Vianen et al. (2009) held that individuals with higher career adaptability have multi-role self-efficacy; adaptability is a kind of implicit social psychological resources (Savickas, 1997), when facing the career choice or dilemma, career adaptability will help individuals enhance the career self-efficacy, get rid of the decision-making dilemma (Li Xu et al., 2013; Urbanaviciute et al., 2014; Hirschi et al., 2015), and show a better performance, etc. (Guan et al., 2014; Ohme & Zacher, 2015). Krieshok & Ulven (2004) found that the individuals with a higher adaptability can obtain a better beginning; therefore, career adaptability is a key ability of career success for individuals. Liang Minghui (2017) verified that the career

adaptability of college students can directly predict entrepreneurial intention, thus this study suggests that career adaptability is a mediating variable worth considering. To sum up, college students' entrepreneurial self-efficacy may further influence entrepreneurial intention through career adaptability. Combing with the above research, it can be inferred that career adaptability plays an intermediary role in the college students' entrepreneurial self-efficacy and entrepreneurial intention, and the research hypotheses are proposed as follows:

Assumption IV: Does career adaptability play a mediating role in the influence of college students' entrepreneurial self-efficacy on entrepreneurial intention;

2.6.5 The Relationship between Perceived Career Barrier and Entrepreneurial Self-efficacy & Entrepreneurial Intention

Many researches reveal that the existence of career barrier may make the individual fail to give full play to the potential in the process of career development and bring the difficulties to the career development (Crites,1969; Leary, 1974; Russell & Rush, 1987; Swanson & Tokar, 1991a, 1991b; Chen Liru, 1994; Tian Xiulan, 1998). More career barriers in the career development stage may reduce the degree of the career self-efficacy and then influence the career development.

Iuzzo (1996) adopted the questionnaire method to research 188 college students, and discussed their career barrier, career maturity and career self-efficacy. The research results indicate that there is significant negative correlation between the career self-efficacy and career barrier, namely the higher the self-efficacy is, the lower the career barrier will be. Career barriers play an important role in the career development process, and career barrier factors are often the main key factors for the unsatisfactory career development (Tian, 2001). Swanson & Tokar (1991) held that understanding the

career barrier factors of individuals would make the career development smooth. This is because the career choice of individuals relies on their personal assessment and response toward the career barrier (Lent, Brown & Hackett, 2000), the barrier factors can make an influence on the emotions, thoughts and behaviors in the process of career choice (London 2001), career planning can be changed as per the condition whether the individuals can encounter or overcome the difficulties they encountered, and the barriers to career entry and career advancement will still make individuals change their career choices, even if individuals have a high level of confidence and interest (Albert & Luzzo, 1999; Brown & Lent, 1996). There is the significant negative correlation between career barrier and career development, career decision-making and career self-efficacy, if the individuals can reduce and percept the career barriers, and clearly recognizes their personal ability, their self-efficacy will be improved and the development of career decision-making will be benefited (Tian Xiulan, 2001). Repeated concession to career goals due to career barriers will lead to anxiety, worry, and lack of confidence of individuals in career decision-making; perceived career barrier is the factor which erodes the confidence of students and makes their career planning more complex (Ladany, Melincoff, & Remshard, 1995). In summary, the higher the perceived career barrier, the more likely it is to reduce the self-efficacy, thus influencing the behavioral intention. Therefore, perceived career barrier may play the role of regulating in entrepreneurial self-efficacy and entrepreneurial intention, and the following research hypotheses are proposed based on the above researches:

Assumption V: Perceived career barrier plays the negative regulating role in college students' entrepreneurial self-efficacy and entrepreneurial intention.

2.7 Summary

By combining the research objectives and research questions in this dissertation, this chapter mainly carries out a literature review on the theoretical basis of this study, the relationship among the variables researched, figures out the contextual relationship, and finally sorts out the relationship among the variables. Through the above literature review, this dissertation suggests that the theory of planned behavior can be as the theoretical basis of this study; and propose five research hypotheses based on the previous literature and research results, as shown below: College students' entrepreneurial self-efficacy has the significant positive influence on their entrepreneurial intention; college students' entrepreneurial self-efficacy has the significant positive influence on career adaptability; college students' Career adaptability has the significant positive influence on entrepreneurial intention; does career adaptability play a mediating role in the influence of college students' entrepreneurial self-efficacy on entrepreneurial intention; perceived career barrier plays the negative regulating role in college students' entrepreneurial self-efficacy and entrepreneurial intention.

CHAPTER 3

RESEARCH METHODS AND DESIGN

Based on the research questions in the dissertation, this chapter infers the research model constructed on the basis of the theory of planned behavior and the through the above literature review and logic, then completely introduces the design thought, research method and research process of this study, emphatically introduce the process, distribution and recycling involved in the questionnaire of this study, and researches the variable selection, measurement method and the data analysis method adopted in this study. This chapter is divided into five sections. The first section is the research framework, the second section is research tool, the third section is the research object, the fifth section is data analysis method, and the fifth section is chapter conclusion.

3.1 Research Framework

3.1.1 Research Framework

The research framework is the structure of research questions and research hypotheses built according to the research objectives, research significance and literature review. This study aims to discuss the influences of college students' entrepreneurial self-efficacy on entrepreneurial intention, the mediating effect of career adaptability, and the regulating effect of perceived career barrier.

Based on the theory of planned behavior, this dissertation sorts out the research literature and results in the relevant fields, proposes the research framework model which takes entrepreneurial self-efficacy as independent variable, entrepreneurial intention as dependent variable, career adaptability as mediating variable, and perceived career barrier as moderating variable. Among which entrepreneurial self-efficacy and entrepreneurial intention scales adopt single dimension; career adaptability scale includes four dimensions, namely career concern, career control, career curiosity, and career confidence; perceived career barrier scale includes two subscales, namely career barrier and education barrier. The specific research framework is shown in Figure 3.1.

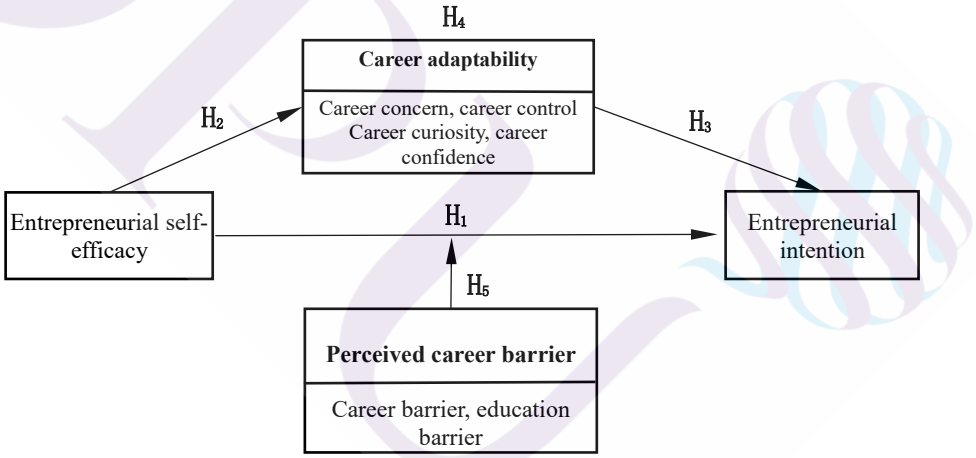

Figure 3.1 Research framework

The author aims to answer six research questions in this dissertation through the research: 1. Are there significant differences in entrepreneurial intention in terms of gender, only child or not, profession, place of birth, education level of patents, the entrepreneurial history of parents' family, classmates and friends? 1. Does college students' entrepreneurial self-efficacy have a significant influence on entrepreneurial

intention? 2. Does college students' entrepreneurial self-efficacy have an influence on career adaptability? 3. Does college students' career adaptability have an influence on entrepreneurial intention? 4. Does career adaptability play a mediating role in the influence of college students' entrepreneurial self-efficacy on entrepreneurial intention? 5. Does perceived career barrier play a moderating role in the influence of college students' entrepreneurial self-efficacy on entrepreneurial intention?

3.1.2 Research Hypotheses

Regarding to the research questions, the author puts forward six research hypotheses in this dissertation through the introduction of theoretical basis, literature review and the discussion on the relationship between variable.

Assumption I: There are significant differences in entrepreneurial intention in terms of gender, only child or not, profession, place of birth, education level of patents, the entrepreneurial history of parents' family, classmates and friends;

Assumption II: College students' entrepreneurial self-efficacy has the significant positive influence on their entrepreneurial intention;

Assumption III: College students' entrepreneurial self-efficacy has the significant positive influence on career adaptability;

Assumption IV: College students' Career adaptability has the significant positive influence on entrepreneurial intention;

Assumption V: Career adaptability plays a mediating role in the influence of college students' entrepreneurial self-efficacy on entrepreneurial intention;

Assumption VI: Perceived career barrier plays the negative regulating role in college students' entrepreneurial self-efficacy and entrepreneurial intention.

3.2 Research Object

3.2.1 Selection of Research Samples

As a developing country and major economy, Mainland China is vigorously advocating Innovation and Entrepreneurship, building the innovative country, and regarding the "Innovation-driven" as one of the development strategies. In mainland China, the overall success rate of startups is slightly lower, and entrepreneurship level is also slightly lower, which influences the performance of the macro entrepreneurship. College students are one of the groups with the most innovative and entrepreneurial potential. Encouraging college students to start a business is the consensus of the world today. It is an urgency to strengthen the study of college students' entrepreneurial behaviors for the economic and social development of all countries in the world, while the entrepreneurial intention is the best pointcut for the study of college students' entrepreneurial behaviors. Under the context that mainland China vigorously advocates "popular entrepreneurship, and popular innovation", it has been urgent to study how to improve the entrepreneurship awareness of college students, and then transfer their entrepreneurial enthusiasm into the actual entrepreneurial performance practically. Shandong Province is one of the provinces with the advanced economy, rapid development and strongest economic strengthen in mainland China, which ranks Top 3 in aspect of economic aggregate. Shandong Province has a larger population size, totaling 100.4724 million populations. There are 144 regular institutions of higher learning, and about 2 million internal students in Shandong Province, which is the province with the richer regular higher education resources in mainland China (Annual Report of Shandong Provincial Education Department, 2019). Shandong universities and colleges enroll the students all over China, covering all provinces and autonomous

regions in Mainland China. Therefore, Shandong Province is relatively representative in the economic development and educational resources throughout the country. Therefore, this study selected universities with national admission and rich origins of students (covering at least ten provinces or more) in Shandong Province, mainland China as samples to collect data.

After selection, this study selected a university in Shandong as a sample, which met the above selection principles and conditions. This university was recognized by the Ministry of Education as a "Innovation and Entrepreneurship Base for National University Practice and Education" and a "National University with Typical Experience of Innovation and Entrepreneurship" due to its outstanding characteristics and achievements in innovation and entrepreneurship; it was appraised as "Provincial Business Incubation Demonstration Base for College Students" and "Designated Institution of Provincial Employment and Entrepreneurship Training Project in Shandong Province" successively; it was awarded the honorary titles of "KAB Entrepreneurship Education Base for Colleges Students", "KAB Entrepreneurship Club for College Students", "Entrepreneurship Education Demonstration College for College Students in Shandong Province", "Collaborative Innovation Center for Institution of Higher Learning in Shandong Province" and so on. At the Annual Meeting of National Innovation and Entrepreneurship organized by the Ministry of Education of the People's Republic of China, the university made many typical speeches and played a leading role in the national university entrepreneurship education.

The university relies on the advantages of university-industry cooperation to establish a platform for innovation and entrepreneurship resources. The university was

elected as "Ministry of Education - ZTE ICT Industry and Education Integration Innovation Base" successively, and jointly built "School of ZTE Communication Information" with enterprises. Cooperative enterprises can provide technical support for entrepreneurship projects in cloud computing and communication technology; It was selected in the Industry and Education Integration Innovation Project of China "100-University Project" approved by Ministry of Education, and jointly build "Big Data Application Innovation Base of Sugon" with enterprises.

The university attaches importance to innovation and entrepreneurship education reform, and strengthens the entrepreneurial practice of students. The university sets up courses of *Foundation of Entrepreneurship* and *Guidance for Employment and Entrepreneurship* for all students, creates and introduces MOOC, video demonstration lesson and online course of *Entrepreneurship Spirit and Practice*, *Creation and Invention* for innovation and entrepreneurship education, providing learning platforms for students with innovative and entrepreneurial interests and intentions; there are more than 3,000 students choosing courses every year. The university establishes a provincial business incubation demonstration base for college students, covering an area of 10,600 m^2. It has been approved as a Provincial Business Incubation Demonstration Unit for College Students in Shandong Province, and Provincial Maker Space for Colleges Students.

The university pays more attention to and encourages students to participate in innovation and entrepreneurship training programs, scientific research training programs, innovation and entrepreneurship competitions of college students. Students have won two national first prizes in the "Entrepreneurial Plan Competition of National Challenge Cup Competition", two national first prizes in the National Mathematical

Contest in Modeling for College Students and the special prize in the CUMCM. Over the past three years, students have won more than 400 provincial second prizes in various innovation and entrepreneurship competitions, such as "China College Students' Entrepreneurship Competition", "Learning Entrepreneurship Cup" and "Mathematical Contest in Modeling", etc., including 52 national first prizes; In 2017, this university won the gold medal in the "China Construction Bank Cup of the 3rd Shandong College Students' Internet + Innovation and Entrepreneurship Competition"; there were 139 approved projects of national college students' innovation and entrepreneurship training program and 167 patents of invention and utility model;

3.2.2 Testing Steps

This study contacted the selected sample university, applied to the Student Management Center for obtaining strong support and contacting senior-class counselors to lead researchers to visit classes and carry out the on-site investigation. Researchers explained the purpose, significance, announcements and contents of the questionnaire on the spot in the survey class, and filled in the questionnaire through the information platform to collect information.

3.2.3 Sampling

This study adopted the typical case sampling method in the purposive sampling method. The sample took a single university as the subject, and 500-1,000 formal samples were suitable (Sudman, 1976). In this study, 1,639 formal questionnaires were issued and 1,623 were recovered. The quality of the collected data was analyzed. The respondents who completed the questionnaire in less than 5 minutes and more than 25 minutes, or had an obvious choice bias (more than 10 questions with the same option) were regarded as invalid. The invalid questionnaires were deleted and

1,002 questionnaires were selected to carry out the research.

3.3 Research Measurement

Questionnaire survey was used to collect data and conduct research. Through literature review, the questionnaire of this paper was designed and formed by selecting relatively classical, reliable and valid scales that are suitable for college students and verified by many empirical studies as research tools. Wilson et al. (2007) entrepreneurial self-efficacy scale, Thompson (2009) entrepreneurial intention scale, Savicks & Porfeli (2012) career adaptability scale and McWhirter (2001) perception of career barriers scale were selected.

3.3.1 Entrepreneurial Intention Scale

1. Information of Scale

This paper selects the entrepreneurial intention scale developed by Thompson (2009) (appendix Ⅰ). Among the survey samples at the beginning of the design of this scale, 36% are undergraduates, 45% are 18-25 years old, and 32% are Americans, 12% are Thais, 10% are Indians and people from Asia, Europe and other countries. This sample is suitable for college students and has good stability across countries and populations. The scale contains six questions, including three positive questions and three negative questions. Likert's five-point scale is adopted, 1 is "completely disagree", 5 is "completely agree", the higher the score is, the stronger the entrepreneurial intention is. The Cronbach's alpha value of the scale was 0.89, the explanatory variance was 63.9%, the mean value was 3.11, the standard deviation was 1.36, the contribution rate of the questions to the principal component was greater than 0.8, and the reliability and validity of the retest was 0.787.

2. Reliability and Validity Analysis

In the formal sample test, there were 6 questions in the original scale of entrepreneurial intention, 2 of which were deleted because the load of two dimensions or factors was lower than 0.5. There were 4 questions in the adjusted entrepreneurial intention scale (appendix Ⅱ). The KMO value of factor analysis was.739, and the significance of Bartlett's spherical test was .000. The Eigenvalue value of the scale is greater than 1, the factor loading is more than 0.5, and the percentage of variance explained is 53.031%, more than 40%, indicating that the entrepreneurial intention scale in this study has good validity (Kaiser, 1974). The reliability analysis of the adjusted entrepreneurial intention scale shows that the Cronbach's alpha value of the scale is 0.700, indicating that the entrepreneurial intention scale in this study has good internal stability and consistency.

Table 3.1 Factor analysis of entrepreneurial intention scale

variable	Factor	Factor loading	Rotation Sums of Squared Loadings		Cronbach's α
			Eigen-value	Percentage of Variance Explained %	
EI	1.Intend to set up a company in the future	.752	2.121	53.031%	.700
	2. Never search for business start-up opportunities	.632			
	3. Are saving money to start a business	.760			
	4. Spend time learning about starting a firm	.761			

Note: [1/] Data Source-researcher collate

[2/] EI-Entrepreneurial intention

3.3.2 Entrepreneurial Self-Efficacy Scale

1. Information of Scale

Wilson et al. (2007) entrepreneurial self-efficacy scale (appendix Ⅰ) is adopted in this study. The scale specifically involves six items, such as problem solving, people support, financial management, entrepreneurial leadership, creativity and decision-making ability, etc., which is more suitable for psychological measurement of college students or start-up population. The scale requires the subjects to make a comparison with the surrounding classmates according to their actual situation, and then answer the questions. Likert scale was used to score the scales. 1 was "Much worse

", 2 was "A little worse", 3 was " About the same ", 4 was " A little better ", and 5 was " Much better ". The higher the score, the stronger the self-efficacy. The Cronbach's alpha value of this scale was 0.82, with good reliability. The scale has been tested among high school students, college students and business leaders, and has cross-population stability.

2. Reliability and Validity Analysis

In the formal sample test, the Cronbach's alpha value of entrepreneurial self-efficacy scale is 0.864, higher than 0.7, indicating that the entrepreneurial self-efficacy scale in this study has good internal stability and consistency. There were 6 questions in the entrepreneurial self-efficacy scale (appendix Ⅱ), the KMO value of factor analysis was.865, and the significance of Bartlett's spherical test was .000. Meanwhile, it can be seen from the analysis results that the Eigenvalue value of the scale is greater than 1, the factor loading is also more than 0.5, and the percentage of variance explained is 60.215%, more than 40%, indicating that the entrepreneurial self-efficacy scale in this study has good validity (Kaiser, 1974).

Table 3.2 Factor analysis of entrepreneurial self-efficacy scale

variable	Factor	Factor loading	Rotation Sums of Squared Loadings		Cronbach's α
			Eigen-value	Percentage of Variance Explained %	
ESE	1.Being able to solve problems	.784	3.613	60.215%	.864
	2. Managing money	.601			
	3. Being creative	.780			
	4. Getting people to agree with you	.800			
	5. Being a leader	.839			
	6. Making decisions	.827			

Note: [1/] Data Source-researcher collate

[2/] ESE: Entrepreneurial Self-Efficacy

3.3.3 Career Adaptability Scale

1. Information of Scale

This paper adopted the career adaptability scale revised by Savicks & Porfeli (2012) (appendix Ⅰ), which was developed after Savicks et al. analyzed the scales of scholars from more than 10 countries and then put them into different countries for testing and data collection. Moreover, through the translation and use of this scale by scholars from both sides of the Taiwan straits (Hou, Leung, Li, & Xu, 2012), the reliability and validity of this scale are all relatively high. Therefore, this paper adopts the scale representing career adaptability, Hou et al. (2012), which is investigated and verified by CAAS China, to measure the career adaptability of individuals. The Chinese

scale is composed of four dimensions: career concern, career control, career curiosity and career confidence, with a total of 24 questions (there are 6 questions in each dimension).Likert 'five-point scale was used, 1 was " Definitely not like me ", 2 was " Not like me ", 3 was " Somewhat like me ", 4 was " Like me " and 5 was " Very much like me ".

The Cronbach's alpha value of the original scale was 0.92, Cronbach's alpha value of the career concern dimension was 0.83, Cronbach's alpha value of the career control dimension was 0.74, Cronbach's alpha value of the career curiosity dimension was 079, and Cronbach's alpha value of the career confidence dimension was 0.85.It indicates that the scale has good stability and consistency.

2. Reliability and Validity Analysis

Formal sample test, reliability analysis, according to the results of career concern dimension with Cronbach 's alpha value is 0.901, career control dimensions with Cronbach' s alpha value is 0.874, career curiosity dimension with Cronbach 's alpha value is 0.907, career confidence dimension with Cronbach' s alpha value is 0.935, the scale of the overall reliability of 0.960, were higher than 0.7, says this study career resilience scale internal has a good stability and consistency.

The scale consists of 24 questions and 4 dimensions (appendix Ⅱ). The KMO value of factor analysis was 0.967, and the significance of Bartlett's spherical test was .000. The eigenvalue of each factor is greater than 1, and the factor loading exceeds 0.4. Meanwhile, the percentage of variance explained of career concern dimension is 17.588%, the percentage of variance explained of career control dimension is 15.654%, the percentage of variance explained of career curiosity dimension is 16.755%, the percentage of variance explained of career confidence dimension is 18.695%, and the

total percentage of variance explained is 68.693% , more than 40%, indicating that this scale has good validity (Kaiser, 1974).

Table 3.3 Factor analysis of career adaptability scale

Dimension	Factor	Factor loading	Rotation Sums of Squared Loadings		Cronbach's α
			Eigen-value	Percentage of Variance Explained %	
Concern	1.Thinking about what my future will be like	.708	4.221	17.588%	.901
	2.Realizing that today's choices shape my future	.771			
	3.Preparing for the future	.784			
	4.Becoming aware of the educational and career choices that I must make	.739			
	5.Planning how to achieve my goals	.701			
	6.Concerned about my career	.635			
Control	1.Keeping upbeat	.672	3.757	15.654%	.874
	2.Making decisions by myself	.756			
	3.Taking responsibility for my actions	.653			
	4.Sticking up for my beliefs	.683			
	5.Counting on myself	.629			
	6.Doing what's right for me	.569			
Curiosity	1.Exploring my surroundings	.646	4.021	16.755%	.907
	2.Looking for opportunities to grow as a person	.634			
	3.Investigating options before making a choice	.684			
	4.Observing different ways of doing things	.707			
	5.Probing deeply into questions I have	.701			
	6.Becoming curious about new opportunities	.647			
Confidence	1.Performing tasks efficiently	.669	4.487	18.695%	.935
	2.Taking care to do things well	.765			
	3.Learning new skills	.758			
	4.Working up to my ability	.746			
	5.Overcoming obstacles	.721			
	6.Solving problems	.713			
Percentage of Total Variance Explained %				68.693%	.960

Note: Data Source-researcher collate

3.3.4 Perception of Career Barriers Scale

1. Information of Scale

The perception of career barriers scale (revised version) used in this study was proposed by McWhirter (2001) (appendix Ⅰ), which was revised from his own POB scale in 1997. Liker's five-point scale was used for scoring, with 1 for "strongly disagree", 2 for "not agree", 3 for "basically agree", 4 for "compare agree" and 5 for "strongly agree". Items 1 to 11 were career-related barriers, and items 12 to 32 were educational barriers. The higher the score, the more obstacles people think they have. In this sample, the Cronbach's alpha value of the total scale was 0.90, and the alpha coefficients of the occupational correlation subscale and education disability subscale were 0.86 and 0.88, respectively. Lindley (2005) used this scale to carry out an empirical study, verifying the reliability and validity of the scale.

2. Reliability and Validity Analysis

In the sample test, the original scale was divided into two subscales. Three items in the career handicap subscale (questions 9, 10, 11) and six items in the educational handicap subscale (questions 11, 12, 13, 14, 15, 17) were deleted because the load of two dimensions or factors was less than 0.5. There were 23 questions on the adjusted scale, 8 questions on the career-related barriers subscale and 15 questions on the education educational barriers subscale (appendix II). The results of reliability analysis showed that the Cronbach's alpha value of occupational handicap sub-scale was 0.924, the Cronbach's alpha value of educational handicap sub-scale was 0.909, and the overall reliability of the whole scale was 0.930, higher than 0.700, indicating that the career handicap perception scale in this study had good internal stability and consistency.

In the adjusted scale, the KMO value of factor analysis was 0.937, and the significance of Bartlett's spherical test was .000. The eigenvalue of each factor is greater than 1, and the factor loading is also greater than 0.5. Meanwhile, the percentage of variance explained of career-related barriers subscale was 26.630%, the percentage of variance explained of educational barriers subscale was 26.925%, and the total percentage of variance explained was 53.555%, more than 40%, indicating that this scale has good validity (Kaiser, 1974).

Table 3.4 Factor analysis of perception of career barriers scale

Dimension	Factor	Factor loading	Rotation Sums of Squared Loadings		Cronbach's α
			Eigen-value	Percentage of Variance Explained %	
Career-Related Barriers	1.be treated differently because of my sex.	.648	6.125	26.630%	.924
	2.be treated differently because of my racial/ethnic background.	.802			
	3.experience negative comments about my sex (such as insults or rude jokes).	.794			
	4.experience negative comments about my racial/ethnic background (such as insults or rude jokes).	.844			
	5.have a harder time getting hired than people of the opposite sex.	.712			
	6.have a harder time getting hired than people of other racial/ethnic backgrounds.	.808			
	7.experience discrimination because of my sex.	.833			
	8.experience discrimination because of my racial/ethnic background.	.836			
Educational Barriers	1.Money problems	.543	6.193	26.925%	.909
	2.Family problems	.538			
	3.Not being smart enough	.583			
	4.Negative family attitudes about college	.594			
	5.Not fitting in at college	.553			
	6.Lack of support from teachers	.621			
	7.Not being prepared enough	.710			
	8.Not knowing how to study well	.733			
	9.Not having enough confidence	.741			
	10.Lack of support from friends to pursue my educational aspirations	.698			
	11.Lack of support from my “significant other” to pursue education	.504			
	12.Relationship concerns	.647			
	13.Having to work while I go to school	.605			
	14.Lack of role models or mentors	.679			
	15.Lack of financial support	.599			
Percentage of Total Variance Explained %				53.555%	.930

Note: Data Source-researcher collate

3.4 Confirmatory Factor Analysis

3.4.1 Tests for Normality

There were 6 questions on the college students' entrepreneurial self-efficacy scale. Skewness coefficient between -.187~ -.011, kurtosis value between -.066 ~.363, the absolute value is less than 2, that the observed variables with normal sexual (Bollen & Long, 1993); The Mardia coefficient is 18.270, less than p (p+2), and p is the number of question items. This scale p =6, 6 (6+2) =48, which can be regarded as multivariate normality of sample data (Bollen, 1989; Raykov & Marcoulides, 2008).

There were 24 questions on the career adaptability scale. Skewness coefficient between -.383 ~.156, kurtosis value is between 1.111 ~ -.520, the absolute value is less than 2, that the observed variables with normal sexual (Bollen & Long, 1993); The Mardia coefficient is 312.343, less than p (p+2), and p is the number of question items. This scale p =24, 24 (24+2) =624, which can be regarded as multivariate normality of sample data (Bollen, 1989; Raykov & Marcoulides, 2008).

There were 23 questions on the perception of career barriers scale. Skewness coefficient between .073~1.182, kurtosis value is between -.636~1.897, the absolute value is less than 2, that the observed variables with normal sexual (Bollen & Long, 1993); The Mardia coefficient is 366.360, less than p (p+2), and p is the number of question items. This scale p =23, 23 (23+2) =575, which can be regarded as multivariate normality of sample data (Bollen, 1989; Raykov & Marcoulides, 2008).

There were 4 questions on the college students' entrepreneurial intention scale. Skewness coefficient between -.405~.135, kurtosis value between -.537~.757, the absolute value is less than 2, that the observed variables with normal sexual (Bollen & Long, 1993); The Mardia coefficient is 9.760, less than p (p+2), and p is the number of

question items. This scale p =4, 4 (4+2) =24, which can be regarded as multivariate normality of sample data (Bollen, 1989; Raykov & Marcoulides, 2008).

3.4.2 Test of Offending Estimate

The standardized regression weighting coefficient of all questions is between .413 and .872, and there is no phenomenon of exceeding or too close to 1. All standardized regression weighting coefficients are significant, and the standard error is between.028 and.088, so there should be no large standard error (Huang, M. F., 2002).The variance of the measurement error is between .155-1.005, which is all positive, no negative and no large standard error (Huang, M. F., 2002). It can be concluded that the measurement model does not violate the estimation problem.

3.4.3 Discriminant validity test

To further test the validity of the scale in this study, the method of confirmatory factor analysis was adopted, and the discriminant validity of the scale was verified by comparing the fitting indexes of the hypothesis model and the competition model.

Firstly, a single-factor model is constructed to load all questions into a common latent variable. Secondly, according to the eight dimensions of four variables, an eight-factor model combination is constructed. The eight-factor model is a competition model. The eight factors measure different contents respectively and represent eight relatively independent concepts.

According to table 3.5, the fitting index of the eight-factor model is as follows.2/df =3.861, less than the standard of 5;RMR=.042, less than the standard of.080;GFI, NFI, IFI and CFI are all greater than.8 and close to the standard of.900, RMSEA=.053 and less than.08. It can be seen that only the fitting indexes of the eight-

factor model reach the critical value standard (Hair, Anderson, Tatham, & Black, 1998).Therefore, this study accepts the eight-factor model, that is, the four variables and eight factors used in this study have high structural validity and discriminant validity.

Table 3.5 The confirmatory factor analysis and discriminant validity test of variables

Modle	χ2/df	RMR	GFI	NFI	IFI	CFI	RMSEA
standard	＜5	＜.080	＞.900	＞.900	＞.900	＞.900	＜.080
Single factor model	13.480	.121	.373	.449	.468	.467	.112
Octet model	3.861	.042	.808	.845	.880	.880	.053

Note: Data Source-researcher collate

3.4.4 Verify convergence validity

The standardized regression weighting coefficient (factor loading) of all questions was between.413 and.872, and the t-value was between 10.521 and 36.605, all of which were greater than 1.96, so they were all significant. According to Bentler & Wu (1993), the factor load of observed variables must be significant, and the factor loading is close to or greater than .45, which means that the observed variables have convergent validity.

The combined reliability (CR) of each factor is between .497 and .935, and is close to or reaches .5, which is acceptable (Raines-Eudy, 2000). Raines-Eudy (2000) believes that the combined reliability value of all dimensions in the scale is close to or

reaches 0.50, which is acceptable.

Average variation extraction (AVE) of each factor was between .38 and .707. Hair et al. (2009) believed that AVE value greater than .5 was an ideal value, since AVE was the average of loading square (SMC), so .36-.5 was an acceptable threshold.

At the same time, Fornell & Larcker (1981) and Bagozzi & Yi (1988) have suggested a potential variable AVE best can exceed 0.50, because it is said the potential variables under observation variable amount of contribution more contribution than error (50%), but if AVE to achieve more than 0.50, is said all the factors of loading must be higher than the average of 0.71 ($0.71^2 = 0.50$), and so is not very easy to achieve in practice. Therefore, if there are five potential variables, we can calculate five AVE. At this time, if three or four potential variables can reach the standard of 0.50, and the AVE of other potential variables can reach the standard of 0.30 or 0.40, it is generally acceptable.

After three criteria of convergence validity are tested, all parameters can reach acceptable values, so it can be inferred that the convergence validity of each factor in the model reaches acceptable threshold.

3.4.5 Discriminant validity retesting

The AVE square root of each dimension is between.616 and.840, all of which are greater than the correlation coefficient between each dimension, satisfying the judgment standard of Hair et al. (1998).Therefore, it can be concluded that all aspects of the model have discriminant validity, which proves once again that the intrinsic quality of the measurement model is quite good.

Table 3.6 To distinguish the validity

	EI	ESE	CA1	CA2	CA3	CA4	PCB1	PCB2
EI	.616							
ESE	.400***	.727						
CA1	.371***	.437***	.746					
CA2	.291***	.378***	.643***	.731				
CA3	.389***	.448***	.671***	.723***	.787			
CA4	.364***	.465***	.652***	.704***	.773***	.840		
PCB1	−.151***	−.165***	−.199***	−.235***	−.231***	−.228***	.787	
PBC2	−.092**	−.191***	−.206***	−.210***	−.212***	−.234***	.534***	.742

Note：1/ Data Source-researcher collate

2/ EI-entrepreneurial intention; ESE-entrepreneurial self-efficacy; CA1-career concern; CA2-career control; CA3-career curiosity; CA4-career confidence; PCB1-career-related barriers; PCB2-educational barriers.

After the above model evaluation process, it can be seen that the internal and external qualities of the eight-factor model can meet the basic requirements from the verification results of model fitness, standardized regression weighting coefficient of each item, convergence validity and discriminant validity.

3.5 Data analysis method

After the above model evaluation process, it can be seen that the internal and external qualities of the eight-factor model can meet the basic requirements from the verification results of model fitness, standardized regression weighting coefficient of each item, convergence validity and discriminant validity.

3.5.1 Descriptive Statistics

Descriptive statistical analysis method was used to make statistics of frequency distribution and percentage of background data of the research objects, so as to understand the distribution of background variable data. The average and standard deviation statistics were used to understand the overall status of college students' entrepreneurial self-efficacy, career adaptability, perception of career barriers and entrepreneurial intention.

3.5.2 The Reliability Analysis

Reliability is to test the consistency and stability of the measurement results of the scale. Generally, internal consistency is used to indicate the measurement reliability. The higher the reliability coefficient is, the smaller the error of the measurement standard is, which means the more consistent and stable the measurement results are. Cronbach's α coefficient reliability measurement tool was used to verify the applicability of the measurement tool in this study.

3.5.3 Validity Analysis

Validity is the degree to which the test and measurement tool can measure the characteristics of the item to be measured, that is, the scale can accurately measure the degree of the measurement target. This study used exploratory factor analysis and confirmatory factor analysis to test the validity of the selected measurement tools.

3.5.4 Independent Sample t Test and ANOVA

This research adopts the independent sample t-test analysis of the difference, comparing the background variables of gender, degree of professional education, whether the one-child, father's or mother's education level, parents have brothers and sisters and friends and classmates ever and industry, in research variables hinder college students entrepreneurial self-efficacy and career resilience, career awareness and whether there were significant differences on entrepreneurial intention.

3.5.5 Pearson Correlation Analysis

Pearson correlation analysis was used to test the relationship between variables. To observe whether there is pair-to-pair correlation among entrepreneurial self-efficacy, career adaptability, career obstacle perception and entrepreneurial intention variables, and whether there is collinearity.

3.5.6 Regression Analysis

First, examine the impact of college students' entrepreneurial self-efficacy on entrepreneurial intention. Secondly, examine the impact of career adaptability on entrepreneurial intention; Finally, according to the regression model proposed by Baron & Kenny (1986), the mediating effect of career adaptability on the influence of college students' entrepreneurial self-efficacy on entrepreneurial intention was tested, and the regulating effect of perception of career barriers on the influence of college students' entrepreneurial self-efficacy on entrepreneurial intention was tested.

According to the above statistical analysis method, the research hypotheses of this study are tested one by one after the research results are obtained.

3.6 summary

This chapter determines the research framework and puts forward the research hypothesis. After selecting the research tool, the reliability and validity of the research tool were tested, and the scale items were deleted through data test results, and the questionnaire of this study was formed after revision. The research sites and samples were determined, the research samples were described, and the procedures of issuing and collecting questionnaires, as well as the data processing and coding were described. Determine the method and basis of data analysis, elaborate the research plan and process, determine the design idea and theoretical basis of this research.

CHAPTER 4

RESULTS OF DATA ANALYSIS

Based on the collected valid questionnaires, this chapter uses data statistical analysis method to verify the research hypothesis. This chapter is divided into five sections, the first section is descriptive statistical analysis. The second section is the difference analysis of different background variables in each variable. The third section is the correlation analysis among entrepreneurial self-efficacy, career adaptability, career obstacle perception and entrepreneurial intention. The fourth section analysis the mediating effect of career adaptability on the effect of college students' entrepreneurial self-efficacy on entrepreneurial intention. The fifth section is the analysis of the moderating effect of perception of career barriers on the effect of college students' entrepreneurial self-efficacy on entrepreneurial intention. The six section is the summary of this chapter.

4.1 Descriptive statistics

4.1.1 Background information of college students

This study distributed 1630 questionnaires and collected 1623 questionnaires, among which 1620 were valid, with an effective recovery rate of 99.57%. According to the filling time, 1002 questionnaires were used. In this study, background variables include gender, only child or not, birthplace, major, father's education, mother's education, parents, siblings, and friends. On this basis, the

collected research samples are statistically analyzed.

Among the gender background variables, 424 male students, accounting for 42.3% of the sample size, and 578 female students, accounting for 57.7% of the sample size. Statistics show that more male than female college students are surveyed. Among the background variables of whether the children are only children, 366 are only children, accounting for 36.5%, and 636 are non-only children, accounting for 63.6%. It is obvious that most are non-only children. Among the variables of major background, 385 students were majoring in arts, accounting for 38.4%, and 617 students were majoring in science, accounting for 61.6%. Statistics show that there are more science students than arts students. In the background variables of birthplace, 86 people in large and medium-sized cities, accounting for 8.6%, 151 people in county-level cities, accounting for 15.1%, 119 people in towns and townships, accounting for 11.9%, and 646 people in rural areas, accounting for 646%.According to the data, rural students are the most, followed by county-level cities, towns and large and medium-sized cities. Among the variables of fathers' education background, 96 (9.6%) had a college degree or above, and 906 (90.4%) had a high school degree or below. According to the data, most of the fathers of the students are at or below the high school level. Among the variables of mothers' education background, 82 were with college degree or above, accounting for 8.2%, and 920 were with high school degree or below, accounting for 91.8%. The data showed that most of the mothers of the students had a high school degree or below. Regarding the entrepreneurial experience of the students' family members, 366 participants had a family member with entrepreneurial experience (36.5%); the remainder did not. Thus, the majority of students did not have a family member with entrepreneurial experience. Regarding friends and classmates, 704 of the

participants had a friend or classmate with entrepreneurial experience (70.3%), whereas the remainder did not. Thus, the majority of the college students had a friend or classmate with entrepreneurial experience.

Table 4.1 Sample basic data distribution table

Background Variable	Category	Number	Proportion%
Gender	Male	424	42.30%
	Female	578	57.70%
Major	Liberal Arts	385	38.40%
	Science	617	61.60%
Only Child	Yes	366	36.50%
	No	636	63.50%
Birthplace	large & medium-sized cities	86	8.60%
	county cities	151	15.10%
	towns	119	11.90%
	rural	646	64.50%
father's education	college degree or above	96	9.60%
	high school degree or below	906	90.40%
mother's education	college degree or above	82	8.20%
	high school degree or below	920	91.80%
Entrepreneurial Experience of the Students' Family Members	Yes	366	36.50%
	No	636	63.50%
Friend or Classmate with Entrepreneurial Experience	Yes	704	70.30%
	No	298	29.70%

Note：[1/] Data Source-researcher collate

[2/] N=1002

4.1.2Narrative Statistics of Variables

1. College Students' Entrepreneurial Self-efficacy

The average of the college students' entrepreneurial self-efficacy scale is 3.327, the average of the highest "able to manage money and accounts" is 3.450, and the average of the lowest "leader role" is 3.240. All the scores were higher than the median value, indicating that the level of entrepreneurial self-efficacy of respondents is above the average.

Table 4.2 Descriptive statistics of entrepreneurial self-efficacy

Item	Minimum	Maximum	Mean	S.D.
1.Being able to solve problems	1	5	3.370	.813
2. Managing money	1	5	3.450	.909
3. Being creative	1	5	3.290	.833
4. Getting people to agree with you	1	5	3.320	.836
5. Being a leader	1	5	3.240	.903
6. Making decisions	1	5	3.300	.883
Total	1	5	3.327	.666

Note：[1/] Data Source-researcher collate

[2/] N=1002

2. Career Adaptability

The average of career adaptability scale is 3.789, and the average of each dimension is in order: the average of career concern dimension is 3.724, the average of career control dimension is 3.797, the average of career curiosity dimension is 3.791, and the average of career confidence dimension is 3.841.Career adaptability in all dimensions and the whole are between the basic accord and the comparative accord, the average score is higher than the median value, indicating that the career adaptability of the respondents is in the medium to high level.

Table 4.3 Descriptive statistics on career adaptability

Dimension	Minimum	Maximum	Mean	S.D.
1.Concern	1	5	3.724	.727
2.Control	1	5	3.797	.688
3.Curiosity	1	5	3.791	.696
4.Confidence	1	5	3.841	.703
Total	1	5	3.789	.618

Note：[1/] Data Source-researcher collate

[2/] N=1002

3.Perception of Career Barriers

The mean of career obstruction perception scale was 2.199, among which the mean of career obstruction dimension was 1.989, and the mean of education obstruction dimension was 2.303.Career obstacle perception is lower than the middle number in all dimensions and on the whole, which is between strong disagreement and basic agreement, indicating that the respondents' perception of career barriers level is at a low level.

Table 4.4 Descriptive statistics of perception of career barriers

Dimension	Minimum	Maximum	Mean	S.D.	Dimension
1. Career-Related Barriers	1002	1	5	1.989	.726
2. Educational Barriers	1002	1	5	2.303	.627
Total	1002	1	5	2.199	.587

Note：[1/] Data Source-researcher collate

[2/] N=1002

4. Entrepreneurial Intention

The average of the entrepreneurial intention scale was 3.407.The lowest score was 3.11 for "I plan to start a company in the future" and the highest was 3.64 for "I never look for entrepreneurial opportunities". The entrepreneurial intention is higher than the median value in all dimensions and on the whole, indicating that the level of entrepreneurial intention of respondents is in the medium to upper level.

Total 4.5 Descriptive statistics of entrepreneurial intention

Item	Minimum	Maximum	Mean	S.D.
1. Intend to set up a company in the future	1	5	3.11	.860
2.Never search for business start-up opportunities	1	5	3.64	.985
3.Are saving money to start a business	1	5	3.38	.932
4.Spend time learning about starting a firm	1	5	3.50	.958
Total	1	5	3.407	.678

Note：[1/] Data Source-researcher collate

[2/] N=1002

4.2 difference analysis of entrepreneurial intention of variables with different backgrounds

4.2.1 Independent sample t test of entrepreneurial intention with different background variables

As detailed in Table 1, a significant sex-based difference was discovered in entrepreneurial intention (t=4.816, p < .001). The male college students' entrepreneurial intention was higher than that of the female students. The effect of family members with entrepreneurial experience on entrepreneurial intention was found to be significant

($t = 3.870$, $p < .001$). Specifically, the entrepreneurial intention of the college students who had a family member with entrepreneurial experience was significantly higher than that of the college students who had no family members with entrepreneurial experience. The effect of friends' and classmates' entrepreneurial experiences on entrepreneurial intention was also significant ($t = 8.615$, $p < .001$). The entrepreneurial intention of college students who had a friend or classmate with entrepreneurial experience was significantly higher than that of college students who had no friends or classmates with entrepreneurial experience.

Table 4.6 t-test of background variables in entrepreneurial intention with

Background Variables	Category	N	Mean	S.D.	t-value	Compare
Gender	Male	424	3.529	.724	4.816***	M＞F
	Female	578	3.318	.628		
Major	Liberal Arts	385	3.358	.649	-1.824	-
	Science	617	3.438	.694		
Only Child	Yes	366	3.384	.716	-.806	-
	No	636	3.421	.655		
father's education	college degree or above	96	3.354	.757	-.729	-
	high school degree or below	906	3.413	.669		
mother's education	college degree or above	96	3.372	.691	-.491	-
	high school degree or below	906	3.410	.677		
Entrepreneurial Experience of the Students' Family Members	Yes	366	3.516	.679	3.870***	Y＞N
	No	636	3.345	.670		
Friend or Classmate with Entrepreneurial Experience	Yes	298	3.133	.632	8.615***	Y＞N
	No	704	3.523	.664		

Note：1/ *p＜0.05, **p＜0.01, ***p＜0.001

2/ Data Source-researcher collate

3/ N=1002

4.2.2 ANOVA of Birthplace in Entrepreneurial Intention

As can be seen from table 4.7, the ANOVA results of different college students' entrepreneurial intentions are analyzed. The F value of place of birth in entrepreneurial self-efficacy is 1.995, $p > 0.05$, which does not meet the significance standard, indicating that place of birth has no significant difference in entrepreneurial self-efficacy, and no comparison is needed.

Table 4.7 ANOVA of birthplace in entrepreneurial intention

Birth-place	N	M	SD	SS	df	MS	F	Multiple Comparisons
large and medium-sized cities	86	3.311	.695	2.734	3	.914	1.995	-
county cities	151	3.419	.640					
towns	119	3.300	.649					
rural	646	3.437	.678					

Note:[1/] Homogeneity of variance was tested by Scheffe method after comparison. ANOVA of different quality were tested by Dunnett T2 method

[2/] $^{*}p<0.05$, $^{**}p<0.01$, $^{***}p<0.001$

[3/] Data Source-researcher collate

[4/] N=1002

4.3 Correlation Analysis of Variables

This section mainly discusses the relationship among college students' entrepreneurial self-efficacy, career adaptability, perception of career barriers and entrepreneurial intention. Pearson correlation analysis method is adopted to understand the correlation between variables.

As shown in table 4.8, there is a significant positive correlation between entrepreneurial self-efficacy and career adaptability ($r = 0.493$, $p < 0.001$), indicating that the higher the entrepreneurial self-efficacy is, the higher the career adaptability is. Entrepreneurial self-efficacy is negatively correlated with perception of career barriers ($r = -0.205$, $p < 0.001$), indicating that the higher the entrepreneurial self-efficacy is, the lower the perception of career barriers is. There is a significant positive correlation between entrepreneurial self-efficacy and entrepreneurial intention ($r = 0.400$, $p < 0.001$), indicating that the higher the entrepreneurial self-efficacy is, the higher the entrepreneurial intention will be.

Career adaptability is negatively correlated with perception of career barriers ($r = -0.282$, $p < 0.001$), indicating that the higher the career adaptability is, the lower the perception of career barriers is. There is a significant positive correlation between career adaptability and entrepreneurial intention($r = 0.404$, $p < 0.05$), indicating that the higher the career adaptability of college students is, the higher the entrepreneurial intention is.

Perception of career barriers is negatively correlated with entrepreneurial intention ($r = -0.130$, $p < 0.001$), indicating that the higher the career obstacle perception is, the lower the entrepreneurial intention is.

The correlation coefficient of each variable is between -0.205*** and

0.493***, indicating no collinearity.

Table 4.8 Correlation analysis summary table

Variable	ESE	CA	PCB	EI
ESE	1			
CA	.493***	1		
PCB	-.205***	-.282***	1	
EI	.400***	.404*	-.130***	1

Note: 1/ *$p<0.05$ **$p<0.01$ ***$p<0.001$

2/ ESE: Entrepreneurial self-efficacy, CA: career adaptability,
EI: entrepreneurial intention, PCB: Perception of Career Barriers

3/ Data Source-researcher collate

4/ N=1002

4.4 Mediating effect of career adaptability on college students' entrepreneurial self-efficacy and entrepreneurial intention

This section mainly discusses the mediating effect of career adaptability on the effect of college students' entrepreneurial self-efficacy on entrepreneurial intention, and verifies the research hypothesis 1-4 with linear regression analysis.

Table 4.9 shows that VIF values of all variables are between 1.047 and 1.352, all of which are less than 10, indicating that there is no collinearity between variables. When this study controlled for sex, family member with entrepreneurial experience,

and friend or classmate with entrepreneurial experience, the F value was 64.546 (p < .001) in Model 1. The standardized regression coefficient of entrepreneurial self-efficacy on entrepreneurial intention was β = .346 (p < .001), and the variance explained was 20.6%, showing that the college students' entrepreneurial self-efficacy significantly positively influenced their entrepreneurial intention. The research hypothesis 1 was thus supported.

In Model 2, F = 87.686 (p < .001), the standardized regression coefficient of entrepreneurial self-efficacy on college students' career adaptability was β = .456 (p < .001), and the variance explained was 26.0%. These findings revealed that the college students' entrepreneurial self-efficacy significantly positively influenced their career adaptability. Therefore, research hypothesis 2 was supported.

In Model 3, F = 66.075 (p < .001) and the standardized regression coefficient of career adaptability on entrepreneurial intention was β = .242 (p < .001), showing that career adaptability significantly positively affected entrepreneurial intention. Therefore, research hypothesis 3 was supported. In Model 3, after adding the career adaptability variable, the standardized regression coefficient of college students' entrepreneurial self-efficacy on entrepreneurial intention was decreased from .346 (p < .001; Model 1) to .236 (p < .001). The variance explained was 24.9%, revealing that career adaptability partially mediated the effect of college students' entrepreneurial self-efficacy on their entrepreneurial intention. Therefore, research hypothesis 4 was supported.

Table 4.9 Multiple regression analysis（role of mediation）

Variable	Model 1 EI Beta	Model 2 CA Beta	Model 3 EI Beta	VIF
Gender（Male）	.083**	.080**	.064**	1.047
Entrepreneurial experience of parents, brothers and sisters（Yes）	.031	.031	.023	1.068
Entrepreneurial experience of classmates and friends（Yes）	.193***	.098***	.169***	1.097
ESE	.346***	.456***	.236***	1.361
CA			.242***	1.352
F	64.546***	87.686***	66.075***	
$\triangle R^2$			4.3%	
R^2	20.6%	26.0%	24.9%	

Note：[1/] $^{*}p<0.05$ $^{**}p<0.01$ $^{***}p<0.001$

[2/] ESE: Entrepreneurial self-efficacy, CA:career adaptability,

EI: entrepreneurial intention

[3/] Reference group：Gender（Female），Entrepreneurial experience of parents, brothers and sisters（No），Entrepreneurial experience of classmates and friends（No）.

4.5 Moderating effect of Perception of Career Barriers on college students' entrepreneurial self-efficacy and entrepreneurial intention

This section mainly analyzes the moderating effect of career obstacle perception on college students' entrepreneurial self-efficacy and entrepreneurial intention, and verifies hypothesis 5: "career obstacle perception plays a moderating role in the influence of college students' entrepreneurial self-efficacy on entrepreneurial intention".

According to the data in table 4.10, VIF values of all variables are between 1.039 and 1.116, all of which are less than 10, indicating that there is no collinearity between the variables. When this study controlled for sex, family member with entrepreneurial experience, and friend or classmate with entrepreneurial experience, the F value was 64.546 ($p < .001$) in Model 1. The standardized regression coefficient of entrepreneurial self-efficacy on entrepreneurial intention was $\beta = .346$ ($p < .001$), and the variance explained was 20.6%, showing that the college students' entrepreneurial self-efficacy significantly positively influenced their entrepreneurial intention. The research hypothesis 1 was thus supported.

In model 2, $F=51.985$ ($p < 0.001$), the standardized regression coefficient of college students' entrepreneurial self-efficacy on entrepreneurial intention is $\beta =.340$ ($p < 0.001$), and the standardized regression coefficient of career obstruction perception on entrepreneurial intention is $\beta =-.036$ ($p > 0.05$), explaining the variance of 20.7%. The data showed that perception of career barriers had no significant impact on entrepreneurial intention.

In model 3, the F value was 43.336 ($p < 0.001$), entrepreneurial self-efficacy on entrepreneurial intention of college students standardized regression coefficients. β

= 340 ($p < 0.001$), career obstacles perception on entrepreneurial intention of standardized regression coefficients $\beta = -033$ ($p > 0.05$), and hinder the consciousness of college students' entrepreneurial self-efficacy and career by a standardized regression coefficients of entrepreneurial intention $\beta = -017$ ($p > 0.05$), which explained 20.7% variance respectively. Data show that career obstacle perception does not play a regulatory role in the effect of entrepreneurial self-efficacy on entrepreneurial intention of college students. Hypothesis 5 "career obstruction perception plays a moderating role in the influence of college students' entrepreneurial self-efficacy on entrepreneurial intention" is not valid.

Table 4.10 Multiple regression analysis （effect of moderation）

Variable	Model 1 EI Beta	Model 2 EI Beta	Model 3 EI Beta	VIF
Gender（Male）	.083**	.081**	.080**	1.052
Entrepreneurial experience of parents, brothers and sisters （Yes）	.031	.029	.028	1.072
Entrepreneurial experience of classmates and friends（Yes）	.193***	.191***	.191***	1.087
ESE	.346***	.340***	.340***	1.116
PCB		-.036	-.033	1.070
ESE×PCB			-.017	1.039
F	64.546***	51.985***	43.336***	
$\triangle R^2$			0.1%	
R^2	20.6%	20.7%	20.7%	

Note：[1/] $^{*}p<0.05$ $^{**}p<0.01$ $^{***}p<0.001$

[2/] ESE: Entrepreneurial self-efficacy, CA:career adaptability,

EI: entrepreneurial intention

[3/] Reference group：Gender（Female），Entrepreneurial experience of parents, brothers and sisters（No），Entrepreneurial experience of classmates and friends （No）.

4.6 summary

Through descriptive statistical analysis, this chapter draws the conclusion that the respondents' entrepreneurial self-efficacy, career adaptability and entrepreneurial intention are all above the average, and their perception of career obstruction is below the average. Through difference analysis, it is concluded that there are significant differences in entrepreneurial intention between gender, entrepreneurial experience of parents, and entrepreneurial experience of classmates and friends. Through correlation analysis, it is concluded that the four variables of entrepreneurial self-efficacy, career adaptability, perception of career barriers and entrepreneurial intention are positively significantly correlated. Five research hypotheses in this paper were verified by regression analysis. Hypothesis 1 "college students' entrepreneurial self-efficacy has a significant positive impact on entrepreneurial intention" is established. Hypothesis 2 "college students' entrepreneurial self-efficacy has a significant positive impact on their career adaptability" is established. Hypothesis 3 "career adaptability has a significant positive impact on entrepreneurial intention" is established. Hypothesis 4 "career adaptability plays an intermediary role in the influence of college students' entrepreneurial self-efficacy on entrepreneurial intention" is established. Hypothesis 5 "career obstruction perception plays a moderating role in the influence of college students' entrepreneurial self-efficacy on entrepreneurial intention" is not true.

CHAPTER 5

DISCUSSION

Based on data analysis and research results, this chapter discusses the results, draws research conclusions, verifies research hypotheses, and puts forward research recommendations, limitations and prospects. This chapter is divided into eight sections. The first section is the status analysis; the second section is the discussion of the differences in entrepreneurial intention of different background variables; the second section is the discussion of the influence of college students' entrepreneurial self-efficacy on the entrepreneurial intention; the fourth section is the discussion of the influence of college students' entrepreneurial self-efficacy on the career adaptability; the fifth section is the discussion of the influence of the career adaptability on the entrepreneurial intention; the sixth section is the discussion of the mediating role of career adaptability in the influence of college students' entrepreneurial self-efficacy on the entrepreneurial intention; the seventh section is the discussion of the mediating effect of perceived career barrier in the influence of college students' entrepreneurial self-efficacy on the entrepreneurial intention.

5.1 Status Analysis of Sample

4.1.1 Basic Information of Background Variables

In this study, the background variables include gender, only child or not, place of birth, profession, education level of patents, entrepreneurial history of parents' family, classmates and friends, with a total of eight items. For the gender, there were 424 males

and 578 females. It can be seen that the sample number of male college students was more than that of female college students; for the only child or not, the number of only child and non-only child was 366 and 636, respectively. It can be seen that the non-only child accounted for a large proportion; for the profession, there were 385 liberal arts students and 617 science students. It can be seen that the number of science students was obviously higher than that of liberal arts students; for the place of birth, the number of large and medium-sized cities, county-level cities, townships and countryside students was 86, 151, 119 and 646, respectively. It can be seen that the countryside has the largest source of students, followed by county-level cities, townships and large and medium-sized cities; for the education level of the father, there were 96 junior college graduates and above, 906 senior high school graduates and below. It can be seen that the education level of most of the students' fathers is at or below the senior high school level; for the education level of the mother, there were 82 junior college graduates and above, 920 senior high school graduates and below. It can be seen that the education level of most of the students' fathers is at or below the senior high school level; for the entrepreneurial history of parents' family, there were 366 entrepreneurs and 636 non-entrepreneurs. It can be seen that a few people start the business; for the entrepreneurial history of classmates and friends, there were 704 entrepreneurs and 298 non-entrepreneurs. It can be seen that the majority of people start the business.

4.1.2 Basic Information of All Variables

The mean value of the entrepreneurial self-efficacy scale was 3.327, of which the mean value of "ability to manage the money and account" was 3.450, which was the highest, and the mean value of "leader role" was 3.240, which was the lowest, but the scores were higher than the median value of 3 points, indicating that the respondents'

entrepreneurial self-efficacy level was above-average level.

The mean value of the career adaptability scale was 3.789, of which the mean value of career concern, career control, career curiosity and career confidence dimension was 3.724, 3.797, 3.791 and 3.841, respectively, which was higher than the median value of 3 points, indicating that the respondents' career adaptability level was above-average level.

The mean value of the modified perceived career barrier scale was 2.199, of which the mean value of occupational barrier and education barrier subscale was 1.989 and 2.303, respectively, which was lower than the median value of 3 points, indicating that the respondents' perceived career barrier level was below-average level.

The mean value of the modified entrepreneurial intention scale was 3.407, of which the mean value of "intending to run a company in the future" was 3.110, which was the lowest, and the mean value of "never looking for entrepreneurial opportunities" was 3.640, which was the highest. The mean value of entrepreneurial intention in the whole and each item was higher than the median value of 3 points, indicating that respondents' entrepreneurial intention level was above-average level.

5.2 Discussions on the Differences of Different Background Variables in Entrepreneurial Intention

There are significant differences in the entrepreneurial intention between different genders. Male college students have higher entrepreneurial intention than female college students. This is consistent with the research results of Zhao & Seibert (2005), Wilson, Marlino, & Kickul (2004), Gupta, Turban, & Bhawe (2008). The reason is that the stereotype threat brought by negative stereotypes has directly led to the

decrease of women's entrepreneurial intention (Turban, & Bhawe, 2007). It is widely believed that men are more suitable for business or more innovative and risky careers than women, which makes men feel more social expectations and pressure in the entrepreneurship. Women should pay more attention to family affairs and parenting (Lee, Wong, Foo, & Leung, 2011), rather than on entrepreneurship, which also reduces women's entrepreneurial intentions. Therefore, college students may be also influenced by this gender stereotype, making the entrepreneurial intention of male college students higher than that of female college students.

There is a significant difference in entrepreneurial intention between entrepreneurial histories of parents' family, namely, the entrepreneurial intention of college students with entrepreneurial history of parents' family is higher than that of college students without entrepreneurial history of parents' family. This is consistent with the research results of Carr & Sequeira (2007). Carr & Sequeira (2007) pointed out that the individual family background exerts a far-reaching influence on children's values, vocational views, life attitudes and behaviors. Many researches have affirmed that entrepreneurial background of family (such as the model role of entrepreneurs and parents in the family) and previous entrepreneurial experience of individual will lead to higher entrepreneurial intention (Matthews & Moser, 1996; Zhao & Seibert, 2005). The business experience and background of the family have a variety of influences on college students, and the alternative experience formed can enhance college students' entrepreneurial self-efficacy and career adaptability, thus promoting the formation of entrepreneurial intention. In the future career choice, college students tend to be self-employed, so the college students with the entrepreneurial history of parents' family have higher entrepreneurial intentions.

There is a significant difference in entrepreneurial intention between entrepreneurial histories of classmates and friends; namely, the entrepreneurial intention of college students with entrepreneurial histories of classmates and friends is higher than that of college students without entrepreneurial histories of classmates and friends. This is similar to the research results of Krueger et al. (2000), namely, the influence of significant others will affect entrepreneurial intention through subjective norms. College students' classmates and friends belong to significant others, so their entrepreneurial behaviors will influence college students' emotive factors of entrepreneurial cognition, including social identity, model role and social norm. These factors will affect entrepreneurial demand and feasibility perception (Grundsten, 2004), thus influencing college students' entrepreneurial intentions. Therefore, college students without entrepreneurial histories of classmates and friends have higher entrepreneurial intentions.

5.3 Discussion of the Influence of College Students' Entrepreneurial Self-efficacy on Entrepreneurial Intention

The previous research results show that college students' entrepreneurial self-efficacy has the significant positive influence on entrepreneurial intention under the control of gender and entrepreneurial history of parents' family, classmates and friends, so Research Hypothesis 1 - "college students' entrepreneurial self-efficacy has the significant positive influence on entrepreneurial intention" has been verified and supported. This is consistent with the research results of Krueger et al. (2000), Forbes (2005), Wilson et al. (2007), Chen et al. (1998), DeNobel (1999 a, b) and Krueger (2000). The results of this study verified the entrepreneurial intention model modified

by Boyd & Vozikis (1994), namely, the self-efficacy can directly influence the entrepreneurial intention. Therefore, the entrepreneurial self-efficacy is an important key variable in the formation process of college Students' entrepreneurial intention, especially in explaining the motivation and behavior of entrepreneur who starts a business for the first time (Krueger & Brazeal, 1994). College students with high entrepreneurial self-efficacy will be confident in entrepreneurship. They will pay more attention to entrepreneurial information, actively learn entrepreneurial knowledge, explore entrepreneurial path, participate in entrepreneurial practice, and enhance their personal abilities, thus enhancing entrepreneurial intention.

5.4 Discussion of the Influence of College Students' Entrepreneurial Self-efficacy on the Career Adaptability

The previous research results show that college students' entrepreneurial self-efficacy has the significant positive influence on career adaptability under the control of gender and entrepreneurial history of parents' family, classmates and friends, so Research Hypothesis 2 - "college students' entrepreneurial self-efficacy has the significant positive influence on career adaptability" has been verified and supported. This is consistent with the research results of Yang Shuhan & Tian Xiulan (2015). College students with high entrepreneurial self-efficacy will be more confident in entrepreneurship, and believe that they have enough ability to deal with entrepreneurship and a series of determining factors, and can devote themselves to positive career concern and career exploration with a correct attitude; a t the same time, college students with high entrepreneurial self-efficacy will have a higher sense of control over their future career and take responsibility for their personal career

development, so their career adaptability will also be increased.

5.5 Discussion of the Impact of Career Adaptability on Entrepreneurial Intention

The previous research results show that the career adaptability has significant positive influence on entrepreneurial intention under the control of gender and entrepreneurial history of parents' family, classmates and friends, so Research Hypothesis 3 - "career adaptability has a significant positive influence on entrepreneurial intention" has been verified and supported. This is consistent with the research results of Tolentino et al. (2014) and Liang Minghui (2017). The conclusions of this study further verify Savicks's (2005) views on theory of career construction, namely, the career adaptability directly affects the career intention and behavior. College students with strong career adaptability can manage and mobilize their willingness and skills in entrepreneurship to solve complex entrepreneurial tasks. They are more adept at identifying business opportunities, mobilizing resources, utilizing uncertainties, adapting to the new environment and learning new skills while pursuing the entrepreneurship objects, so that they will have higher entrepreneurial intentions due to strong enthusiasm and initiative.

5.6 Discussion of the Mediating Role of Career Adaptability in the Impact of College Students' Entrepreneurial Self-efficacy on the Entrepreneurial Intention

The previous research results show that career adaptability plays a mediating role in the influence of college students' entrepreneurial self-efficacy on the entrepreneurial intention under the control of gender and entrepreneurial history of parents' family, classmates and friends, so Research Hypothesis 4 - "career adaptability

plays a mediating role in the influence of college students' entrepreneurial self-efficacy on the entrepreneurial intention" has been verified and supported. This is similar to the research results of Gao, Lin, Cui, & Wen (2018), Li, Hou, & Feng (2013), namely, the career adaptability plays a significant mediating role. The career adaptability is a kind of behavioral attitude; the entrepreneurial self-efficacy is a kind of perceived behavior control; the entrepreneurial intention is a kind of behavioral intention, so career adaptability and entrepreneurial self-efficacy can directly influence the entrepreneurial intention, which further verifies Ajzen's (1991) theory of planned behavior, that is, behavioral attitude and perceived behavior norm can directly influence behavioral intention. This study found that college students with high entrepreneurial self-efficacy will believe that they can successfully play the role of entrepreneurs and fulfill entrepreneurial tasks. They will produce a positive psychological state, actively adapt to the changes and uncertainties in the entrepreneurial process, and produce strong career adaptability. The career adaptability further improves college students' perception of entrepreneurship and mental readiness, makes them more confident, and forms a stronger entrepreneurial intention.

5.7 Discussion of the Mediating Effect of Perceived Career Barrier in the Influence of College Students' Entrepreneurial Self-efficacy on the Entrepreneurial Intention

The previous research results show that perceived career barrier has no significant mediating effect in the influence of college students' entrepreneurial self-efficacy on the entrepreneurial intention under the control of gender and entrepreneurial history of parents' family, classmates and friends, so Research Hypothesis 5 -

"perceived career barrier plays a moderating role in the influence of college students' entrepreneurial self-efficacy on the entrepreneurial intention" is invalid. The reasons may be the limitation of the research sample, because this is only a single university; in addition, for some questions about "marriage, children and race" in the scale, the respondents are college students aged between 21 and 25 years old, with less social experience and work experience, so all of them are unmarried, and lack of understanding about children, marriage and childbearing. Therefore, their perception of career and education barriers is not susceptible enough, which may cause that the perceived career barrier cannot play a moderating role in the influence of college students' entrepreneurial self-efficacy on entrepreneurial intention.

5.8 Summary

This chapter discusses and analyzes the research results based on the previous research literature. Generally speaking, the level of samples in each variable is above-average level. In the background variables, there are significant differences in entrepreneurial intention among gender and entrepreneurial history of parents' family, classmates and friends, which is consistent with previous research results; four of the remaining five research hypotheses are consistent with previous research results, and one is inconsistent with previous research results.

CHAPTER 6

CONCLUSIONS

Based on the research conclusions, this chapter puts forward research recommendations, shortcomings and prospects. This chapter is divided into four sections. The first section is the conclusion; the second section is the practical suggestions; the third section is the limitations and prospects; and the fifth section is the chapter conclusion.

6.1 Conclusions

Based on the previous research results and discussions, the research conclusions of this dissertation are summarized as follows:

Table 6.1 Summary of research conclusions

No.	Research hypotheses	Verification result
H1	(I) To study the differences in entrepreneurial intention in terms of gender, only child or not, profession, place of birth, education level of patents, the entrepreneurial history of parents' family, classmates and friends.	There are significant differences in entrepreneurial intention among gender and entrepreneurial history of parents' family, classmates and friends.
H2	(II) College students' entrepreneurial self-efficacy has the significant positive influence on their entrepreneurial intention;	Valid
H3	(III) College students' entrepreneurial self-efficacy has the significant positive influence on career adaptability.	Valid
H4	(IV) College students' career adaptability has the significant positive influence on entrepreneurial intention.	Valid
H5	(V) Career adaptability plays a mediating role in the influence of college students' entrepreneurial self-efficacy on the entrepreneurial intention.	Valid
H6	(VI) Perceived career barrier plays a moderating role in the influence of college students' entrepreneurial self-efficacy on the entrepreneurial intention.	Invalid

6.2 Practical Suggestions

6.2.1 Strengthen entrepreneurial education and service and enhance college students' entrepreneurial self-efficacy

This study finds that college students' entrepreneurial self-efficacy has the significant positive influence on the entrepreneurial intention, providing the following suggestions for universities and related institutions:

(I) Set up an example of the entrepreneurial model of college students and encourage students' entrepreneurial self-efficacy

Many people's efficacy expectation comes from observing others' alternative experience. College students can gain alternative experience by observing similar examples and achievement levels. Generally, the individual will use idols as a reference system to assess his/her self-efficacy. Inspired by successful entrepreneurial models, college students will imitate the things similar to the model, thus forming positive entrepreneurial self-efficacy. Therefore, college students can improve their entrepreneurial self-efficacy beliefs and make them believe that they have the ability to master the corresponding behaviors by learning entrepreneurial models and witnessing or imagining successful entrepreneurial performance similar to others. The self-efficacy is an important factor influencing the formation of entrepreneurial intention.

Therefore, universities should set more entrepreneurial models in the entrepreneurial education. On the one hand, universities should set up successful entrepreneurial models to motivate and stimulate students' entrepreneurial potential; on the other hand, the model chosen by universities should also be suitable for their situations. For example, universities can choose alumni who start businesses successfully and publicize their entrepreneurial deeds, to arouse everyone's resonance

and motivate the college student to follow and learn from them; thirdly, universities should pay attention to propaganda and atmosphere building. For example, universities can widely publicize in the university newspapers, websites, broadcasts and other campus media, regularly invite experts, scholars and successful entrepreneurs to hold entrepreneurial lectures, thus enhancing the entrepreneurial motivation of college students. At the same time, universities should also focus on guiding college students to establish reasonable reference goals and avoid unrealistic fantasies.

(II) Improve the entrepreneurial education course and enhance the effectiveness of entrepreneurial education

The entrepreneurial education is one of the effective ways to improve entrepreneurial self-efficacy. Especially, it is an important way for college students to obtain alternative experience, understand all kinds of information, set up excellent mood and mentality, and verify their entrepreneurial determination. It is suggested that universities should constantly improve the entrepreneurial education course and system, carry out the target course design according to the market demand and the university's professional characteristics and advantages, reduce the theoretical courses, and shift the theory-based entrepreneurial courses to those oriented by increasing skills and practical experience, thus enabling students to acquire more practical and effective entrepreneurial knowledge, such as formulating entrepreneurial plans, registering and managing enterprises, etc. The entrepreneurial education can really intervene in the generation of students' entrepreneurial intention through learning by doing and linking theory with practice. Furthermore, in order to strengthen the entrepreneurial education, universities should improve the teacher level, promote the course reform, and pay full attention to the cultivation of college students' entrepreneurial intention. Teachers

should carry out interactive entrepreneurial teaching, implement individual coaching for entrepreneurship, and encourage students to change their employment concepts, stimulate college students' entrepreneurial enthusiasm, and promote the formation of college students' entrepreneurial intention.

(III) Provide more entrepreneurial practical opportunities and enhance the successful entrepreneurial experience of college students

The successful entrepreneurial experience in the past can improve the individual's entrepreneurial self-efficacy, and the multi-self-efficacy has the greatest influence. To a certain extent, enhancing the familiarity with things or increasing the number of experiences can help to build the individual's entrepreneurial self-efficacy. The effective entrepreneurial experience can stimulate the entrepreneurs' achievability, especially the vibrant college students with fighting will and motivation can not only enhance their entrepreneurial self-efficacy, but also improve their entrepreneurial ability and stimulate students' achievement motivation in practice in case that they have the proper experience and exploration of entrepreneurial activities. Universities should actively organize various forms of entrepreneurial activities, such as entrepreneurial project and planning, simulated entrepreneurship, etc., to guide students to build a real entrepreneurial experience. Students can accumulate successful experience through practice in the process of active participation, and perceive the pleasure of entrepreneurship and the significance of self-actualization, thus strengthening their entrepreneurial intention. In addition, universities can actively guide students to choose the entrepreneurial projects with small risks and easy access and exit to experience the entrepreneurship. The entrepreneurial contents include establishing network studios, setting up small campus companies, and acting as commodity sales agent. College

students can enhance their entrepreneurial self-efficacy and cultivate their entrepreneurial intention through the practice.

(IV) Establish Research Center for Entrepreneurial Education and implement the dynamic research and service

The improvement of the entrepreneurial education system is a dynamic process. The influence mechanism of college students' entrepreneurial self-efficacy is not unchanged due to the quick change of the modern society and continuous development and change of the external environment. For example, many universities have set up their own Research Center for Entrepreneurial Education in the past, which run on the basis of School of Management or Business School, achieving excellent results. Drawing lessons from this, universities also establish their own Research Center for Entrepreneurial Education based on Business School or School of Management. In addition to incorporating the relevant entrepreneurial education research into the scope of daily work, this institution should also coordinate the entrepreneurial education and practical activities of college students of all departments, and be responsible for the external communication to obtain support from the government and enterprises, thus creating a more favorable environment for college students to start their own businesses.

(V) Improve the entrepreneurial environment and build an entrepreneurial support platform

As an individual factor, college students' entrepreneurial self-efficacy will be influenced by the environmental factors. Social environments such as entrepreneurial guidance and support, as well as government policies, etc. constitute the macro-environment for entrepreneurship. Therefore, in addition to guiding and encouraging college students, relevant institutions and universities should strive to improve the

entrepreneurial environment, provide an entrepreneurial support platform, create and foster an excellent environment and atmosphere to encourage college students to start their own businesses, and carry out targeted guidance and assistance for cultivating the college students' entrepreneurial self-efficacy. The enterprises, society and universities can jointly provide entrepreneurial guidance service, policy consultation, project development, entrepreneurial training, entrepreneurial incubation, petty loan, entrepreneurial guidance and follow-up counseling for college students, guide college students to combine local economic development in the entrepreneurial direction and form, and strive for the support of all sectors of society for college students' entrepreneurship. Local governments can construct and improve the college students' innovation park and business incubation base with small investment and quick results, and give relevant policy support to protect their legitimate rights and interests, thus creating an excellent atmosphere for cultivating the college students' entrepreneurial intention.

6.2.2 Enhance the College Students' Career Adaptability

This study finds that career adaptability has the significant positive influence on entrepreneurial intention and plays a mediating role in the influence of college students' entrepreneurial self-efficacy on the entrepreneurial intention.

(I) Construct a learning environment with "career development" as the core

The concept of the career adaptability is implemented in the university education and teaching, to construct a learning environment with "career development" as the core. Constructing this learning environment aims to stimulate the development and application of college students' abilities in career concern, career exploration, career control and career confidence. This learning environment has three

characteristics: the first one is that students can obtain work experience of the real life; the second one is that students can express their learning process; the third one is that students can participate in some dialogues/exchanges related to career orientation. Based on the concept of career adaptability and the characteristics of career learning environment, universities should complete the following points: firstly, universities should fully consider whether disciplines and professional construction are too different from the social reality, and whether college students' professional learning is related to their future career development; secondly, universities should consider whether the professional knowledge selected for college students can cope with their future career; thirdly, universities must ensure that all courses arranged have a certain amount of practice time, and pay special attention to offering characteristic courses to meet the market demand or job needs, to shorten the "adaptation period" of students after employment as far as possible; fourthly, universities must thoroughly replace the traditional "cramming" teaching mode of passive learning with flexible and diverse teaching modes such as active involvement in thematic discussion, group learning, problem debate, on-the-spot investigation and case analysis, etc., and encourage students to actively participate in social practice, thus deepening the understanding of theoretical knowledge by solving practical problems in the actual work, enhancing college students' problem solving ability and career adaptability, and improving their entrepreneurial intention.

(II) Pay attention to and strengthen the career education

It is suggested that universities should carry out the following career courses in the design of career education course contents based on the theory of career adaptability construction: (1) Improve career concern, focusing on guiding college

students to complete their career planning and enhancing their sense of hope for future development; (2) cultivate the career curiosity, focusing on guiding college students to understand and assess their vocational interest, character, ability and value, as well as various career information; (3) enhance the career control, focusing on enhancing college students' control of future career; (4) improve the career confidence, focusing on enhancing college students' confidence in overcoming potential barriers and difficulties in their future career by setting up role models, cultivating problem solving ability, and implementing other intervention methods, etc.; (5) improve the career adaptability, focusing on improving college students' coping capacity in the face of career difficulties, thus improving college students' career adaptability.

It is worth noting that career educators should avoid deducing it into a teaching course of pure theoretical knowledge, and avoid the lack of necessary operability and practical experience teaching in the implementation of the career education course. Firstly, the "case analysis" teaching method can be adopted, namely, course teachers can invite full-time staff of university and people from all sectors of society who have many years of career guidance experience to give lectures to tell and analyze vivid employment and career development stories to college students, aiming to enable students to understand the specific steps and real process of career planning from the cases of many successful people. Secondly, in the course teaching, teachers can also use the "group training" method to divide students into different groups according to their personal career development needs. The training contents can be aimed at the general lack of career preparation ability of college students, such as career exploration ability, problem solving ability, job-hunting skills and ability to communicate with others, etc. Thirdly, universities should establish a network exchange

platform to provide assistance to college students by using the Internet. College students can put forward their own questions on the online course platform and consult teachers and other students, can get the necessary assessment tools free of charge on the websites of Vocational Guidance Center or Career Development Service Center, and independently carry out self-assessment of vocational qualities and skills, can use the computer software to determine the occupations that match the self-assessment results, and can obtain lots of employment information from the Internet, including career development trends, job characteristics, skill requirements, internship opportunities, recruitment announcements and related professional groups. Finally, course teachers can prepare a lot of written documents to guide and encourage students to carry out independent learning, and conduct many related readings, so that college students can more systematically grasp the knowledge and skills of career planning and development, and enhance career adaptability, thus enhancing the entrepreneurial intention.

(III) Focus on constructing the career service system

It is of great significance for universities to carry out career services. The core idea of college students' career service should be to help college students to "adapt"; the career service staff should be trained systematically and professionally, and have solid professional knowledge and excellent professional service skills; career services should be extensive, such as providing career counseling and coaching for college students, offering career-related tests, analyzing and explaining the test results, providing information on entrance and employment through various channels, and helping students develop adaptive career coping skills, etc.; career service measures should add pertinence and appropriateness, namely, universities should pay attention to students' career development needs and consider the differences of students'

characteristics in the process of planning the career service measures. For example, this study finds that there are significant differences in the career adaptability and entrepreneurial intention among college student's gender and entrepreneurial history of parents' family, so career counseling and education must be aimed at the individual differences of college students, and universities should pay attention to "background differences among college student's gender and entrepreneurial history of parents' family". The entrepreneurial intention can be promoted through the improvement of the career adaptability.

6.3 Limitations and Prospects

There are limitations in this study, which can be explored and improved in future research, mainly including the following three aspects:

6.3.1 Limitations on Sample Factors

The objects of this study are potential entrepreneurs. According to the practice of previous empirical research, college students are selected as subjects for random sampling to collect data. All final data reflect excellent authenticity and representativeness through lots of questionnaires, recovery of questionnaires, data entry and collation, as well as statistical analysis in the limited research time. However, the samples of this study are only selected in Shandong Province due to the regional limitations, causing insufficient coverage and scope of the sample.

It is suggested that future researches can consider carrying out surveys and sampling in other provinces of mainland China. This study conducts the sampling from universities in Shandong Province, which is a coastal province with relatively developed economy and active entrepreneurial activities and education. Therefore,

future researches can be carried out in the central and western provinces to explore and compare the influence mechanism and effect of college students' entrepreneurial self-efficacy on entrepreneurial intention in the context of different regional provinces, economic development situations and degrees of openness.

6.3.2 Limitations on Research Variables

This dissertation adopts career adaptability as the mediating variable and adopts the perceived career barrier as the moderating variable in researching the influence of college students' individual factors on the entrepreneurial intention. The research verifies that career adaptability plays a mediating role in the influence of college students' entrepreneurial self-efficacy on the entrepreneurial intention, so the research hypotheses are valid; the perceived career barrier has no moderating effect in the influence of college students' entrepreneurial self-efficacy on the entrepreneurial intention, so the research hypotheses are invalid.

It is suggested that future researchers can continue to investigate whether perceived career barriers play mediating role in the influence of college students' entrepreneurial self-efficacy on the entrepreneurial intention, or whether perceived career barriers play mediating role or have a moderating effect in other variables in this study. Meanwhile, other career-related variables can be introduced to further study whether college students' entrepreneurial self-efficacy plays a mediating role or has a moderating effect in the influence of entrepreneurial intention.

6.3.3 Limitations on Research Methods

This study adopts the quantitative research method to collect data and information through questionnaires and adopts SPSS data statistics tools, descriptive statistics, reliability and validity analysis, correlation analysis, regression analysis and

other data analysis methods to collate and analyze data, measures and analyzes the quantifiable characteristics of the objects to test research hypotheses and draw research conclusions. This study does not use the qualitative research method, so the research method is relatively not so multifarious.

It is suggested that the qualitative research method could be adopted for further researches and discussions. Meanwhile, the dynamic tracking research design method can also be adopted in further researches to continuously track the changes of entrepreneurial intention and behavior of college students in different grades and development stages in the university and after entering the society, thus further exploring the relevant factors and influence mechanism affecting college students' entrepreneurial intention, and providing research basis and theoretical support for the university's entrepreneurial education.

6.4 Conclusion of the Chapter

On the basis of the research conclusions, this dissertation proposes practical suggestions for the university's entrepreneurial education and career guidance and service, in the hope to improve college students' entrepreneurial intention by improving their entrepreneurial self-efficacy and career adaptability. This dissertation puts forward suggestions and prospects for future researches based on the limitations on sample factors, research variables and research methods of this study.

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APPENDIX

Appendix I

QUESTIONNAIRE ON COLLEGE STUDENTS' ENTREPRENEURIAL INTENTION （ORIGINAL SCALE QUESTIONNAIRE）

Dear students,

Thank you very much for your participation in this study, which is a questionnaire to explore the entrepreneurial intention of college students, aiming to understand the relationship between entrepreneurial self-efficacy, career adaptability, Perceived Career Barriers Scale and entrepreneurial intention of college students. This questionnaire is anonymous, and the data collected are only for research purposes. Any information you provide will be kept strictly confidential, so please feel free to fill in. The information you provided is very important for this study. There is no right or wrong answer to each question. Please answer truthfully according to the actual situation and do not omit any question.

Sincere thanks again for your support and cooperation. I wish you academic progress and all the best!

Ⅰ Introduction

This questionnaire is composed of four variables: entrepreneurial self-efficacy, career adaptability, career obstacle perception and entrepreneurial intention.The entrepreneurial intention was measured by Thompson(2009) entrepreneurial intention scale, with 6 questions, 3 positive questions and 3 negative questions.Wilson(2007) entrepreneurial self-efficacy scale was used to measure the entrepreneurial self-efficacy

of college students. There were 6 questions, all of which were positive.Career adaptability was measured by Savicks(2012) career adaptability scale, which has 4 dimensions and a total of 24 questions.McWhirter(2001) career handicap perception scale was used to measure career handicap perception, with a total of 32 questions.

Ⅱ Personal Basic Information

The following is your basic information survey, please draw "√" on the corresponding box according to your actual situation.

Personal information：

Gender：□male □female

Is it a minority? □Yes □No

Major：□liberal arts □science

Family environment：

Only Child：□Yes □No

Birth place: □ large and medium-sized cities

□ county cities □ towns □ rural

Father's education：□High school □college □undergraduate

□master □and above

Mother's education：□High school □college □undergraduate

□master □and above

Entrepreneurial Experience of the Students' Family Members：□Yes □No

Friend or Classmate with Entrepreneurial Experience：□Yes □No

Ⅲ Individual Entrepreneurial Intent Scale

Question: Thinking of yourself, how true or untrue is it that you：	very untrue	untrue	slightly true	true	very true.
1.Intend to set up a company in the future	☐	☐	☐	☐	☐
2.Never search for business start-up opportunities	☐	☐	☐	☐	☐
3.Are saving money to start a business	☐	☐	☐	☐	☐
4.Do not read books on how to set up a firm	☐	☐	☐	☐	☐
5.Have no plans to launch your own business	☐	☐	☐	☐	☐
6.Spend time learning about starting a firm	☐	☐	☐	☐	☐

Note：Thompson (2009) Individual Entrepreneurial Intent Scale

Ⅳ Entrepreneurial Self-Efficacy Scale

Question: Entrepreneurial Self-Efficacy was measured by asking respondents to rate themselves against their peers on the following measures.	Much worse	A little worse	About the same	A little better	Much better
1. Being able to solve problems	☐	☐	☐	☐	☐
2. Managing money	☐	☐	☐	☐	☐
3. Being creative	☐	☐	☐	☐	☐
4. Getting people to agree with you	☐	☐	☐	☐	☐
5. Being a leader	☐	☐	☐	☐	☐
6. Making decisions	☐	☐	☐	☐	☐

Note：Wilson(2007) Entrepreneurial Self-Efficacy Scale

Ⅴ Career Adaptabilities Scale

Dimension	Item	Defin-itely not like me	Not like me	Some-what like me	Like me	Very much like me
Concern	1.Thinking about what my future will be like	☐	☐	☐	☐	☐
	2.Realizing that today's choices shape my future	☐	☐	☐	☐	☐
	3.Preparing for the future	☐	☐	☐	☐	☐
	4.Becoming aware of the educational and career choices that I must make	☐	☐	☐	☐	☐
	5.Planning how to achieve my goals	☐	☐	☐	☐	☐
	6.Concerned about my career	☐	☐	☐	☐	☐
Control	7.Keeping upbeat	☐	☐	☐	☐	☐
	8.Making decisions by myself	☐	☐	☐	☐	☐
	9.Taking responsibility for my actions	☐	☐	☐	☐	☐
	10.Sticking up for my beliefs	☐	☐	☐	☐	☐
	11.Counting on myself	☐	☐	☐	☐	☐
	12.Doing what's right for me	☐	☐	☐	☐	☐
Curiosity	13.Exploring my surroundings	☐	☐	☐	☐	☐
	14.Looking for opportunities to grow as a person	☐	☐	☐	☐	☐
	15.Investigating options before making a choice	☐	☐	☐	☐	☐
	16.Observing different ways of doing things	☐	☐	☐	☐	☐
	17.Probing deeply into questions I have	☐	☐	☐	☐	☐
	18.Becoming curious about new opportunities	☐	☐	☐	☐	☐
Confidence	19.Performing tasks efficiently	☐	☐	☐	☐	☐
	20.Taking care to do things well	☐	☐	☐	☐	☐
	21.Learning new skills	☐	☐	☐	☐	☐
	22.Working up to my ability	☐	☐	☐	☐	☐
	23.Overcoming obstacles	☐	☐	☐	☐	☐
	24.Solving problems	☐	☐	☐	☐	☐

Note： Savicks(2012) Career Adapt-Abilities Scale

Ⅵ Perception of Career Barriers Scale

Dimension	Item： In my future career I will probably . . .	Strongly disagree	not agree	agree	Slightly agree	Strongly agree
Career-Related Barriers	1.be treated differently because of my sex.	☐	☐	☐	☐	☐
	2.be treated differently because of my racial/ethnic background.	☐	☐	☐	☐	☐
	3.experience negative comments about my sex (such as insults or rude jokes).	☐	☐	☐	☐	☐
	4.experience negative comments about my racial/ethnic background (such as insults or rude jokes).	☐	☐	☐	☐	☐
	5.have a harder time getting hired than people of the opposite sex.	☐	☐	☐	☐	☐
	6.have a harder time getting hired than people of other racial/ethnic backgrounds.	☐	☐	☐	☐	☐
	7.experience discrimination because of my sex.	☐	☐	☐	☐	☐
	8.experience discrimination because of my racial/ethnic background.	☐	☐	☐	☐	☐
	9.have difficulty finding quality daycare for my children.	☐	☐	☐	☐	☐
	10.have difficulty getting time off when my children are sick.	☐	☐	☐	☐	☐
	11.have difficulty finding work that allows me to spend time with my family.	☐	☐	☐	☐	☐
Educational Barriers	12.Money problems	☐	☐	☐	☐	☐
	13.Family problems	☐	☐	☐	☐	☐
	14.Not being smart enough	☐	☐	☐	☐	☐
	15.Negative family attitudes about college	☐	☐	☐	☐	☐
	16.Not fitting in at college	☐	☐	☐	☐	☐
	17.Lack of support from teachers	☐	☐	☐	☐	☐
	18.Not being prepared enough	☐	☐	☐	☐	☐
	19.Not knowing how to study well	☐	☐	☐	☐	☐
	20.Not having enough confidence	☐	☐	☐	☐	☐
	21.Lack of support from friends to pursue my educational aspirations	☐	☐	☐	☐	☐
	22.My gender	☐	☐	☐	☐	☐
	23.People’s attitudes about my gender	☐	☐	☐	☐	☐
	24.My ethnic background	☐	☐	☐	☐	☐
	25.People’s attitudes about my ethnic	☐	☐	☐	☐	☐

background					
26.Childcare concerns	☐	☐	☐	☐	☐
27.Lack of support from my "significant other" to pursue education	☐	☐	☐	☐	☐
28.My desire to have children	☐	☐	☐	☐	☐
29.Relationship concerns	☐	☐	☐	☐	☐
30.Having to work while I go to school	☐	☐	☐	☐	☐
31.Lack of role models or mentors	☐	☐	☐	☐	☐
32.Lack of financial support	☐	☐	☐	☐	☐

Note： McWhirter (2001) Perception of Career Barriers Scale

Appendix Ⅱ

QUESTIONNAIRE ON COLLEGE STUDENTS' ENTREPRENEURIAL INTENTION （REVISED QUESTIONNAIRE）

Dear students,

Thank you very much for your participation in this study, which is a questionnaire to explore the entrepreneurial intention of college students, aiming to understand the relationship between entrepreneurial self-efficacy, career adaptability, Perceived Career Barriers Scale and entrepreneurial intention of college students. This questionnaire is anonymous, and the data collected are only for research purposes. Any information you provide will be kept strictly confidential, so please feel free to fill in. The information you provided is very important for this study. There is no right or wrong answer to each question. Please answer truthfully according to the actual situation and do not omit any question.

Sincere thanks again for your support and cooperation. I wish you academic progress and all the best!

Ⅰ Introduction

This questionnaire is composed of four variables: entrepreneurial self-efficacy, career adaptability, career obstacle perception and entrepreneurial intention.The entrepreneurial intention was measured by Thompson(2009) entrepreneurial intention scale, with 4 questions, 3 positive questions and 1 negative questions. Wilson(2007) entrepreneurial self-efficacy scale was used to measure the entrepreneurial self-efficacy

of college students. There were 6 questions, all of which were positive.Career adaptability was measured by Savicks(2012) career adaptability scale, which has 4 dimensions and a total of 24 questions.McWhirter(2001) career handicap perception scale was used to measure career handicap perception, with a total of 23 questions.

Ⅱ Personal Basic Information

The following is your basic information survey, please draw "√" on the corresponding box according to your actual situation.

Personal information：

Gender：□male □female

Is it a minority? □Yes □No

Major：□liberal arts □science

Family environment：

Only Child：□Yes □No

Birthplace: □ large and medium-sized cities

□ county cities □ towns □ rural

Father's Education：□High school □college □undergraduate

□master □and above

Mother's Education：□High school □college □undergraduate

□master □and above

Entrepreneurial Experience of the Students' Family Members：□Yes □No

Friend or Classmate with Entrepreneurial Experience：□Yes □No

Ⅲ Individual Entrepreneurial Intention Scale

Question: Thinking of yourself, how true or untrue is it that you：	very untrue	untrue	slightly true	true	very true.
1.Intend to set up a company in the future	☐	☐	☐	☐	☐
2.Never search for business start-up opportunities	☐	☐	☐	☐	☐
3.Are saving money to start a business	☐	☐	☐	☐	☐
4.Spend time learning about starting a firm	☐	☐	☐	☐	☐

Note：Thompson (2009) Individual Entrepreneurial Intent Scale

Ⅳ Entrepreneurial Self-Efficacy Scale

Question: Entrepreneurial Self-Efficacy was measured by asking respondents to rate themselves against their peers on the following measures.	Much worse	A little worse	About the same	A little better	Much better
1. Being able to solve problems	☐	☐	☐	☐	☐
2. Managing money	☐	☐	☐	☐	☐
3. Being creative	☐	☐	☐	☐	☐
4. Getting people to agree with you	☐	☐	☐	☐	☐
5. Being a leader	☐	☐	☐	☐	☐
6. Making decisions	☐	☐	☐	☐	☐

Note：Wilson(2007) Entrepreneurial Self-Efficacy Scale

Ⅴ Career Adapt-Abilities Scale

Dimension	Item	Defin-itely not like me	Not like me	Some-what like me	Like me	Very much like me
Concern	1.Thinking about what my future will be like	☐	☐	☐	☐	☐
	2.Realizing that today's choices shape my future	☐	☐	☐	☐	☐
	3.Preparing for the future	☐	☐	☐	☐	☐
	4.Becoming aware of the educational and career choices that I must make	☐	☐	☐	☐	☐
	5.Planning how to achieve my goals	☐	☐	☐	☐	☐
	6.Concerned about my career	☐	☐	☐	☐	☐
Control	7.Keeping upbeat	☐	☐	☐	☐	☐
	8.Making decisions by myself	☐	☐	☐	☐	☐
	9.Taking responsibility for my actions	☐	☐	☐	☐	☐
	10.Sticking up for my beliefs	☐	☐	☐	☐	☐
	11.Counting on myself	☐	☐	☐	☐	☐
	12.Doing what's right for me	☐	☐	☐	☐	☐
Curiosity	13.Exploring my surroundings	☐	☐	☐	☐	☐
	14.Looking for opportunities to grow as a person	☐	☐	☐	☐	☐
	15.Investigating options before making a choice	☐	☐	☐	☐	☐
	16.Observing different ways of doing things	☐	☐	☐	☐	☐
	17.Probing deeply into questions I have	☐	☐	☐	☐	☐
	18.Becoming curious about new opportunities	☐	☐	☐	☐	☐
Confidence	19.Performing tasks efficiently	☐	☐	☐	☐	☐
	20.Taking care to do things well	☐	☐	☐	☐	☐
	21.Learning new skills	☐	☐	☐	☐	☐
	22.Working up to my ability	☐	☐	☐	☐	☐
	23.Overcoming obstacles	☐	☐	☐	☐	☐
	24.Solving problems	☐	☐	☐	☐	☐

Note： Savicks(2012) Career Adapt-Abilities Scale

Ⅵ Perception of Career Barriers Scale

Dimension	Item： In my future career I will probably . . .	Strongly disagree	disagree	agree	Slightly agree	Strongly agree
Career-Related Barriers	1.be treated differently because of my sex.	☐	☐	☐	☐	☐
	2.be treated differently because of my racial/ethnic background.	☐	☐	☐	☐	☐
	3.experience negative comments about my sex (such as insults or rude jokes).	☐	☐	☐	☐	☐
	4.experience negative comments about my racial/ethnic background (such as insults or rude jokes).	☐	☐	☐	☐	☐
	5.have a harder time getting hired than people of the opposite sex.	☐	☐	☐	☐	☐
	6.have a harder time getting hired than people of other racial/ethnic backgrounds.	☐	☐	☐	☐	☐
	7.experience discrimination because of my sex.	☐	☐	☐	☐	☐
	8.experience discrimination because of my racial/ethnic background.	☐	☐	☐	☐	☐
Educational Barriers	1.Money problems	☐	☐	☐	☐	☐
	2.Family problems	☐	☐	☐	☐	☐
	3.Not being smart enough	☐	☐	☐	☐	☐
	4.Negative family attitudes about college	☐	☐	☐	☐	☐
	5.Not fitting in at college	☐	☐	☐	☐	☐
	6.Lack of support from teachers	☐	☐	☐	☐	☐
	7.Not being prepared enough	☐	☐	☐	☐	☐
	8.Not knowing how to study well	☐	☐	☐	☐	☐
	9.Not having enough confidence	☐	☐	☐	☐	☐
	10.Lack of support from friends to pursue my educational aspirations	☐	☐	☐	☐	☐
	11.Lack of support from my “significant other” to pursue education	☐	☐	☐	☐	☐

12.Relationship concerns	☐	☐	☐	☐	☐
13.Having to work while I go to school	☐	☐	☐	☐	☐
14.Lack of role models or mentors	☐	☐	☐	☐	☐
15.Lack of financial support	☐	☐	☐	☐	☐

Note： McWhirter (2001) Perception of Career Barriers Scale